## **Index to Volume 31**

## **Author Index**

- Aaron, E. See Norris, Jackson, and Aaron, 383
- Ablashi, D. V. See Heine, Ablashi, and Armstrong, 1019; Heine, Kondratick, Ablashi, Armstrong, and Dalton, 542
- Abraham, S. See Bartley, McGrath, and Abraham, 527; Mehard, Packer, and Abraham, 2148
- Adamson, R. H. See Waalkes, Adamson, O'Gara, and Gallo, 1069
- Adler, W. H., Takiguchi, T., and Smith, R. T. Phytohemagglutinin Unresponsiveness in Mouse Spleen Cells Induced by Methylcholanthrene Sarcomas, 864
- Agrawal, K. C. See Wolpert, Damle, Brown, Sznycer, Agrawal, and Sartorelli, 1620
- Agrò, A. F. See Mondovì, Strom, Agrò, Caiafa, De Sole, Bozzi, Rotilio, and Rossi Fanelli. 505
- Alam, S. N. See Hall, Alam, Chen, Dyson, Hong, and Chheda, 704
- Albala, M. M. See Jones, Holland, Morrison, Lee, Sinks, Cuttner, Rausen, Kung, Pluss, Haurani, Patterson, Blom, Burgert, Moon, Chevalier, Sawitsky, Albala, Forcier, Falkson, and Glidewell, 84
- Albrecht, A. M. See Sobel, Albrecht, Riehm, and Biedler, 297
- Alexander, N. M., and Boyer, J. L. Glyoxalase Activity in Sham- and Partially Hepatectomized Rats, 1875
- Allan, P. W. See Bennett and Allan, 152
- Allen, D. O., Munshower, J., Morris, H. P., and Weber, G. Regulation of Adenyl Cyclase in Hepatomas of Different Growth Rates, 557
- Allen, L. W. See Rappaport, Strum, Hutchison, and Allen, 1794
- Allen, P. See Looney, Mayo, Janners, Mellon, Allen, Salak, and Morris, 821
- Al-Saadi, A. A. See Wu, Al-Saadi, Ling, and McKinnie, 577
- Ames, R. P. See Chandra, Korol, Ames, Fabrizio, and Jensen, 441
- Ametani, T. See Tani, Ametani, Ishijima, Higashi, and Fujihara, 1210; Tani, Takeuchi, Ishijima, Higashi, Fujihara, Ametani, and Ando, 2120
- Anagnostopoulos, C. E. See Redding, Anagnostopoulos, and Ultmann, 1741
- Anders, F. See Vielkind, Vielkind, and Anders, 868
- Anderson, J. P. See McCormick, Anderson, Stenback, and Trentin, 981
- Anderson, L. J. See Moos, Maguire, Kitchlew, Swyers, Volk, Croft, Quigley, Fries, Oser, and Anderson, 937
- Anderson, M. D. See Slater, Anderson, and Rosenkranz, 970

- Anderson, W. F., and Shafritz, D. A. Methionine Transfer RNAF: The Initiator Transfer RNA for Hemoglobin Biosynthesis, 701
- Ando, K. See Kato, Ando, Tamura, and Arima, 501; Tani, Takeuchi, Ishijima, Higashi, Fujihara, Ametani, and Ando, 2120
- Ankerst, J. Demonstration and Identification of Cytotoxic Antibodies and Antibodies Blocking the Cell-mediated Antitumor Immunity against Adenovirus Type 12induced Tumors, 997
- Ansfield, F. J. See Wolberg and Ansfield,
- Argus, M. F. Susceptibility of the Guinea Pig to Chemical Carcinogenesis, 917
- Arima, K. See Kato, Ando, Tamura, and Arima, 501
- Armstrong, G. R. See Heine, Ablashi, and Armstrong, 1019; Heine, Kondratick, Ablashi, Armstrong, and Dalton, 542
- Arnold, E. See Asahina, Friedman, Arnold, Millar, Mishkin, Bishop, and Epstein, 1201
- Asahina, S., Friedman, M. A., Arnold, E., Millar, G. N., Mishkin, M., Bishop, Y., and Epstein, S. S. Acute Synergistic Toxicity and Hepatic Necrosis following Oral Administration of Sodium Nitrite and Secondary Amines to Mice, 1201
- Attié, M. See Tubiana, Attié, Flamant, Gérard-Marchant, and Hayat, 1801
- Axtell, L. M. See Berard, Thomas, Axtell, Kruse, Newell, and Kagan, 1776
- Bagley, C. M., Jr. See DeVita, Bagley, Goodell, O'Kieffe, and Trujillo, 1746
- Bailey, J. M., and Dunbar, L. M. Lipid Metabolism in Cultured Cells: Growth of Tumor Cells Deficient in Essential Fatty Acids, 91
- Baird, W. M., and Boutwell, R. K. Tumorpromoting Activity of Phorbol and Four Diesters of Phorbol in Mouse Skin, 1074
- Baird, W. M., Sedgwick, J. A., and Boutwell, R. K. Effects of Phorbol and Four Diesters of Phorbol on the Incorporation of Tritiated Precursors into DNA, RNA, and Protein in Mouse Epidermis, 1434
- Baker, C. G. Introductory Remarks (Symposium: Transfer RNA and Transfer RNA Modification in Differentiation and Neoplasia), 598
- Baker, M. S. See Harris, Sporn, Kaufman, Smith, Baker, and Saffiotti, 1977
- Baney, R. N. See Lieberman, Baney, Lee, Sell, and Farber, 1297
- Banzon, J. See Firat and Banzon, 1355

- Baranowsky, P. E. See Coffey, Palm, Denine, Baranowsky, and Kensler, 1908
- Barranco, S. C., and Humphrey, R. M. The Effects of 1,3-Bis (2-chloroethyl)-1-nitrosourea on Survival and Cell Progression in Chinese Hamster Cells, 191; The Effects of β-2'-Deoxythioguanosine on Survival and Progression in Mammalian Cells, 583; The Effects of Bleomycin on Survival and Cell Progression in Chinese Hamster Cells in Vitro, 1218
- Barranco, S. C., Romsdahl, M. M., and Humphrey, R. M. The Radiation Response of Human Malignant Melanoma Cells Grown in Vitro, 830
- Bartley, J. C., McGrath, H., and Abraham, S. Glucose and Acetate Utilization by Hyperplastic, Alveolar Nodule Outgrowths and Adenocarcinomas of Mouse Mammary Gland, 527
- Battaglini, J. W. See Hilf, Battaglini, Delmez, Cohen, and Rector, 1195
- Bauer, J. M. See Wu, Bauer, and Morris, 12
  Baumunk, C. N., and Friedman, D. L. Absence of an Effect of Amethopterin and 5-Fluorodeoxyuridine upon Levels of Thymidine Triphosphate in HeLa Cells, 1930
- Beard, D. See Langlois, Vepřek, Beard, Fritz, and Beard, 1010
- Beard, J. W. See Langlois, Vepřek, Beard, Fritz, and Beard, 1010
- Becker, F. F. See Teebor and Becker, 1
- Becker, F. F., and Klein, K. M. The Effect of L-Asparaginase on Mitotic Activity during N-2-Fluorenylacetamide Hepatocarcinogenesis: Subpopulations of Nodular Cells, 169
- Bekesi, J. G., St-Arneault, G., and Holland, J. F. Increase of Leukemia L1210 Immunogenicity by *Vibrio cholerae* Neuraminidase Treatment, 2130
- Bell, C. See Hilf, Bell, Goldenberg, and Michel, 1111
- Bennett, L. L., Jr., and Allan, P. W. Formation and Significance of 6-Methylthiopurine Ribonucleotide as a Metabolite of 6-Mercaptopurine, 152
- Bensted, J. P. M. See Schoental and Bensted, 573
- Benyesh-Melnick, M. See Macek, Seidel, Lewis, Brunschwig, Wimberly, and Benyesh-Melnick, 308
- Berard, C. W. See Rappaport, Berard, Butler, Dorfman, Lukes, and Thomas, 1864
- Berard, C. W., Thomas, L. B., Axtell, L. M., Kruse, M., Newell, G., and Kagan, R. The Relationship of Histopathological Subtype to Clinical Stage of Hodgkin's Disease at Diagnosis, 1776

## **Index to Volume 31**

## **Author Index**

- Aaron, E. See Norris, Jackson, and Aaron, 383
- Ablashi, D. V. See Heine, Ablashi, and Armstrong, 1019; Heine, Kondratick, Ablashi, Armstrong, and Dalton, 542
- Abraham, S. See Bartley, McGrath, and Abraham, 527; Mehard, Packer, and Abraham, 2148
- Adamson, R. H. See Waalkes, Adamson, O'Gara, and Gallo, 1069
- Adler, W. H., Takiguchi, T., and Smith, R. T. Phytohemagglutinin Unresponsiveness in Mouse Spleen Cells Induced by Methylcholanthrene Sarcomas, 864
- Agrawal, K. C. See Wolpert, Damle, Brown, Sznycer, Agrawal, and Sartorelli, 1620
- Agrò, A. F. See Mondovì, Strom, Agrò, Caiafa, De Sole, Bozzi, Rotilio, and Rossi Fanelli. 505
- Alam, S. N. See Hall, Alam, Chen, Dyson, Hong, and Chheda, 704
- Albala, M. M. See Jones, Holland, Morrison, Lee, Sinks, Cuttner, Rausen, Kung, Pluss, Haurani, Patterson, Blom, Burgert, Moon, Chevalier, Sawitsky, Albala, Forcier, Falkson, and Glidewell, 84
- Albrecht, A. M. See Sobel, Albrecht, Riehm, and Biedler, 297
- Alexander, N. M., and Boyer, J. L. Glyoxalase Activity in Sham- and Partially Hepatectomized Rats, 1875
- Allan, P. W. See Bennett and Allan, 152
- Allen, D. O., Munshower, J., Morris, H. P., and Weber, G. Regulation of Adenyl Cyclase in Hepatomas of Different Growth Rates, 557
- Allen, L. W. See Rappaport, Strum, Hutchison, and Allen, 1794
- Allen, P. See Looney, Mayo, Janners, Mellon, Allen, Salak, and Morris, 821
- Al-Saadi, A. A. See Wu, Al-Saadi, Ling, and McKinnie, 577
- Ames, R. P. See Chandra, Korol, Ames, Fabrizio, and Jensen, 441
- Ametani, T. See Tani, Ametani, Ishijima, Higashi, and Fujihara, 1210; Tani, Takeuchi, Ishijima, Higashi, Fujihara, Ametani, and Ando, 2120
- Anagnostopoulos, C. E. See Redding, Anagnostopoulos, and Ultmann, 1741
- Anders, F. See Vielkind, Vielkind, and Anders, 868
- Anderson, J. P. See McCormick, Anderson, Stenback, and Trentin, 981
- Anderson, L. J. See Moos, Maguire, Kitchlew, Swyers, Volk, Croft, Quigley, Fries, Oser, and Anderson, 937
- Anderson, M. D. See Slater, Anderson, and Rosenkranz, 970

- Anderson, W. F., and Shafritz, D. A. Methionine Transfer RNAF: The Initiator Transfer RNA for Hemoglobin Biosynthesis, 701
- Ando, K. See Kato, Ando, Tamura, and Arima, 501; Tani, Takeuchi, Ishijima, Higashi, Fujihara, Ametani, and Ando, 2120
- Ankerst, J. Demonstration and Identification of Cytotoxic Antibodies and Antibodies Blocking the Cell-mediated Antitumor Immunity against Adenovirus Type 12induced Tumors, 997
- Ansfield, F. J. See Wolberg and Ansfield,
- Argus, M. F. Susceptibility of the Guinea Pig to Chemical Carcinogenesis, 917
- Arima, K. See Kato, Ando, Tamura, and Arima, 501
- Armstrong, G. R. See Heine, Ablashi, and Armstrong, 1019; Heine, Kondratick, Ablashi, Armstrong, and Dalton, 542
- Arnold, E. See Asahina, Friedman, Arnold, Millar, Mishkin, Bishop, and Epstein, 1201
- Asahina, S., Friedman, M. A., Arnold, E., Millar, G. N., Mishkin, M., Bishop, Y., and Epstein, S. S. Acute Synergistic Toxicity and Hepatic Necrosis following Oral Administration of Sodium Nitrite and Secondary Amines to Mice, 1201
- Attié, M. See Tubiana, Attié, Flamant, Gérard-Marchant, and Hayat, 1801
- Axtell, L. M. See Berard, Thomas, Axtell, Kruse, Newell, and Kagan, 1776
- Bagley, C. M., Jr. See DeVita, Bagley, Goodell, O'Kieffe, and Trujillo, 1746
- Bailey, J. M., and Dunbar, L. M. Lipid Metabolism in Cultured Cells: Growth of Tumor Cells Deficient in Essential Fatty Acids, 91
- Baird, W. M., and Boutwell, R. K. Tumorpromoting Activity of Phorbol and Four Diesters of Phorbol in Mouse Skin, 1074
- Baird, W. M., Sedgwick, J. A., and Boutwell, R. K. Effects of Phorbol and Four Diesters of Phorbol on the Incorporation of Tritiated Precursors into DNA, RNA, and Protein in Mouse Epidermis, 1434
- Baker, C. G. Introductory Remarks (Symposium: Transfer RNA and Transfer RNA Modification in Differentiation and Neoplasia), 598
- Baker, M. S. See Harris, Sporn, Kaufman, Smith, Baker, and Saffiotti, 1977
- Baney, R. N. See Lieberman, Baney, Lee, Sell, and Farber, 1297
- Banzon, J. See Firat and Banzon, 1355

- Baranowsky, P. E. See Coffey, Palm, Denine, Baranowsky, and Kensler, 1908
- Barranco, S. C., and Humphrey, R. M. The Effects of 1,3-Bis (2-chloroethyl)-1-nitrosourea on Survival and Cell Progression in Chinese Hamster Cells, 191; The Effects of β-2'-Deoxythioguanosine on Survival and Progression in Mammalian Cells, 583; The Effects of Bleomycin on Survival and Cell Progression in Chinese Hamster Cells in Vitro, 1218
- Barranco, S. C., Romsdahl, M. M., and Humphrey, R. M. The Radiation Response of Human Malignant Melanoma Cells Grown in Vitro, 830
- Bartley, J. C., McGrath, H., and Abraham, S. Glucose and Acetate Utilization by Hyperplastic, Alveolar Nodule Outgrowths and Adenocarcinomas of Mouse Mammary Gland, 527
- Battaglini, J. W. See Hilf, Battaglini, Delmez, Cohen, and Rector, 1195
- Bauer, J. M. See Wu, Bauer, and Morris, 12
  Baumunk, C. N., and Friedman, D. L. Absence of an Effect of Amethopterin and 5-Fluorodeoxyuridine upon Levels of Thymidine Triphosphate in HeLa Cells, 1930
- Beard, D. See Langlois, Vepřek, Beard, Fritz, and Beard, 1010
- Beard, J. W. See Langlois, Vepřek, Beard, Fritz, and Beard, 1010
- Becker, F. F. See Teebor and Becker, 1
- Becker, F. F., and Klein, K. M. The Effect of L-Asparaginase on Mitotic Activity during N-2-Fluorenylacetamide Hepatocarcinogenesis: Subpopulations of Nodular Cells, 169
- Bekesi, J. G., St-Arneault, G., and Holland, J. F. Increase of Leukemia L1210 Immunogenicity by *Vibrio cholerae* Neuraminidase Treatment, 2130
- Bell, C. See Hilf, Bell, Goldenberg, and Michel, 1111
- Bennett, L. L., Jr., and Allan, P. W. Formation and Significance of 6-Methylthiopurine Ribonucleotide as a Metabolite of 6-Mercaptopurine, 152
- Bensted, J. P. M. See Schoental and Bensted, 573
- Benyesh-Melnick, M. See Macek, Seidel, Lewis, Brunschwig, Wimberly, and Benyesh-Melnick, 308
- Berard, C. W. See Rappaport, Berard, Butler, Dorfman, Lukes, and Thomas, 1864
- Berard, C. W., Thomas, L. B., Axtell, L. M., Kruse, M., Newell, G., and Kagan, R. The Relationship of Histopathological Subtype to Clinical Stage of Hodgkin's Disease at Diagnosis, 1776

- Bergsagel, D. E. See Ogawa, Bergsagel, and McCulloch, 2116
- Berkowitz, D. M. See Smith, Sporn, Berkowitz, Kakefuda, Callan, and Saffiotti, 199Bernard, J. See Teillet, Boiron, and Bernard,
- Bernfield, M. R. and Mäenpää, P. H. Seryl Transfer RNA Changes during Estrogeninduced Phosvitin Synthesis and a Unique Seryl Transfer RNA Modification, 684
- Bertalanffy, F. D., and Gibson, M. H. L. The in Vivo Effects of Arabinosylcytosine on the Cell Proliferation of Murine B16 Melanoma and Ehrlich Ascites Tumor, 66
- Betz, B. See Groth, D'Angelo, Vogler, Mingioli, and Betz, 332
- Bhagat, B. See Pinkerton, Bhagat, Rana, and Holtwick, 1483
- Bhan, R. D. See Goldenberg, Bhan, and Pavia, 1148
- Bhuyan, B. K., Neil, G. L., Smith, C. G., Olin, E. J., and Li, L.-H. Biological and Biochemical Differences between Tubercidin (7-Deazaadenosine) and Its 5'-Phosphate Methyl Ester, 1923
- Biedler, J. L. See Riehm and Biedler, 409; Sobel, Albrecht, Riehm, and Biedler, 297
- Bielschowsky, M. See Rappaport, Bielschowsky, D'Ath, and Goodall, 2047
- Bigotti, A. See Viola, Bigotti, and Caputo, 516
- Bikoff, E. See Gefter and Bikoff, 667
- Bishop, Y. See Asahina, Friedman, Arnold, Millar, Mishkin, Bishop, and Epstein, 1201
- Biswas, S., and Hollander, V. P. Metabolic Studies on Mammary Tumor MTW9 following Resection of the Mammosomatotropic Tumor MtTW5, 1360
- Björk, G. R., and Neidhardt, F. C. Analysis of 5-Methyluridine Function in the Transfer RNA of Escherichia coli, 706
- Blair, D. G. R. See Dell'Orco, Blair, and Morgan, 561
- Blair, P. B. Strain Specificity in Mouse Mammary Tumor Virus Virion Antigens, 1473
- Blom, J. See Jones, Holland, Morrison, Lee, Sinks, Cuttner, Rausen, Kung, Pluss, Haurani, Patterson, Blom, Burgert, Moon, Chevalier, Sawitsky, Albala, Forcier, Falkson, and Glidewell, 84
- Blunck, J. M. See Louis and Blunck, 2110
- Boiron, M. See Rosenberg, Boiron, DeVita, Johnson, Lee, Ultmann, and Viamonte, 1864; Teillet, Boiron, and Bernard, 1723
- Bonder, R. H., and Van Scott, E. J. Use of Mouse Vaginal and Rectal Epithelium to Screen Antimitotic Effects of Systemically Administered Drugs, 851
- Bont, W. S. See Vernie, Bont, and Emmelot, 2189
- Booth, B. A. See Moore, Booth, and Sartorelli, 235
- Booth, B. A., Moore, E. C., and Sartorelli, A. C. Metabolic Effects of Some Tumor-

- inhibitory Pyridine Carboxaldehyde Thiosemicarbazones, 228
- Boranić, M., and Tonković, I. Time Pattern of the Antileukemic Effect of Graftversus-Host Reaction in Mice, 1140
- Borek, E. Introduction (Symposium: Transfer RNA and Transfer RNA Modification in Differentiation and Neoplasia), 596. See also Kerr, Sharma, and Borek, 633
- Borella, L., and Webster, R. G. The Immunosuppressive Effects of Long-Term Combination Chemotherapy in Children with Acute Leukemia in Remission, 420
- Bornstein, R. S., Hungerford, D. A., Haller, G., Engstrom, P. F., and Yarbro, J. W. Cytogenetic Effects of Bleomycin Therapy in Man, 2004
- Borum, K. See Sjögren and Borum, 890
- Boutwell, R. K. See Baird and Boutwell, 1074; Baird, Sedgwick, and Boutwell, 1434
- Boyer, J. L. See Alexander and Boyer, 1875
  Bozzi, A. See Mondovi, Strom, Agrò,
  Caiafa, De Sole, Bozzi, Rotilio, and Rossi
  Fanelli, 505
- Brandes, D. See Paris and Brandes, 392
- Breslow, N., and McCann, B. Statistical Estimation of Prognosis for Children with Neuroblastoma, 2098
- Bresnick, E., Mayfield, E. D., Jr., Liebelt, A. G., and Liebelt, R. A. Enzyme Patterns in a Group of Transplantable Mouse Hepatomas of Different Growth Rates, 743
- Briggs, L. G. See Recher, Briggs, and Parry, 140; Recher, Parry, Briggs, and Whitescarver, 1915
- Brill, E. See Radomski, Brill, Deichmann, and Glass, 1461
- Brodey, R. S. See McDonough, Larsen, Brodey, Stock, and Hardy, 953
- Brodey, Stock, and Hardy, 953
  Brown, B. W. See Hersh and Brown, 834
- Brown, C. H., III, and Carbone, P. P. Effects of Chemotherapeutic Agents on Normal Mouse Bone Marrow Grown in Vitro, 185
- Brown, J. E. See Wolpert, Damle, Brown, Sznycer, Agrawal, and Sartorelli, 1620
- Brucher, J-M. See Taper, Fort, and Brucher, 913
- Bruni, J. E., and Montemurro, D. G. Effect of Hypothalamic Lesions on the Genesis of Spontaneous Mammary Gland Tumors in the Mouse, 854; Effect of Pregnancy, Lactation, and Pituitary Isografts on the Genesis of Spontaneous Mammary Gland Tumors in the Mouse, 1903
- Brunschwig, J. P. See Macek, Seidel, Lewis, Brunschwig, Wimberly, and Benyesh-Melnick, 308
- Burgert, E. O., Jr. See Jones, Holland, Morrison, Lee, Sinks, Cuttner, Rausen, Kung, Pluss, Haurani, Patterson, Blom, Burgert, Moon, Chevalier, Sawitsky, Albala, Forcier, Falkson, and Glidewell, 84
- Burki, H. R. DNA Content of Mastocytoma Cells in Cell Culture after Inhibition of

- RNA Synthesis with 6-Azauridine, 1188

  Burki, H. R., and Okita, G. T. Effect of

  Mammary Tumor Virus Infection on in

  Vivo Oxidation of Glucose-1-14C and

  Glucose-6-14C in C3H Mice, 1955
- Burns, E. R., Soloff, B. L., Hanna, C., and Buxton, D. F. Nuclear Pockets Associated with the Nucleolus in Normal and Neoplastic Cells, 159
- Burns, E. R., and White, H. J. A Spontaneous Mesenchymal Cell Neoplasm in Adult Newt, Diemictylus viridescens, 826
- Burtin, P., von Kleist, S., and Sabine, M-C.
   Loss of a Normal Colonic Membrane Antigen in Human Cancers of the Colon, 1038
   Busch, H. See Seeber and Busch, 1895
- Butler, J. J. Relationship of Histological Findings to Survival in Hodgkin's Disease, 1770. See also Rappaport, Berard, Butler, Dorfman, Lukes, and Thomas, 1864
- Butler, T. P., and Pearson, O. H. Regression of Prolactin-dependent Rat Mammary Carcinoma in Response to Antihormone Treatment, 817
- Butler, W. H. See Hard and Butler, 337, 348, 366, 1496
- Bun-Hoi, N. P. See Epstein, Bun-Hoi, and Hien. 1087
- Buxton, D. F. See Burns, Soloff, Hanna, and Buxton, 159
- Byvoet, P., and Morris, H. P. N-Acetylation of Arginine-rich Hepatoma Histones, 468
- Caiafa, P. See Mondovi, Strom, Agrò, Caiafa, De Sole, Bozzi, Rotilio, and Rossi Fanelli. 505
- Caicuts, M. See Hatfield, Portugal, and Caicuts, 697
- Calamai, R. See Daoust and Calamai, 1290 Callan, E. See Smith, Sporn, Berkowitz, Kakefuda, Callan, and Saffiotti, 199
- Caputo, A. See Viola, Bigotti, and Caputo, 516
- Carbon, J., and Squires, C. Studies on Genetically Altered Transfer RNA Species in Escherichia coli, 663
- Carbone, P. P. See Brown and Carbone, 185; Devita and Carbone, 1838
- Carbone, P. P., Kaplan, H. S., Musshoff, K., Smithers, D. W., and Tubiana, M. Report of the Committee on Hodgkin's Disease Staging Classification, 1860
- Carter, A. E. See James, James, Carter, and Irvine, 1268
- Casazza, A. M., Di Marco, A., and Di Cuonzo, G. Interference of Daunomycin and Adriamycin on the Growth and Regression of Murine Sarcoma Virus (Moloney) Tumors in Mice, 1971
- Cassell, E. E., Meites, J., and Welsch, C. W. Effects of Ergocornine and Ergocryptine on Growth of 7,12-Dimethylbenzanthracene-induced Mammary Tumors in Rats,
- Castanera, T. J., Jones, D. C., Kimeldorf,

- D. J., and Rosen, V. J. The Effect of Age at Exposure to a Sublethal Dose of Fast Neutrons on Tumorigenesis in the Male Rat, 1543
- Chaffey, J. T., and Hellman, S. Differing Responses to Radiation of Murine Bone Marrow Stem Cells in Relation to the Cell Cycle, 1613
- Chambers, V. C., and Weiser, R. S. The Ultrastructure of Target L-Cells and Immune Macrophages during Their Interaction in Vivo. 2067
- Chandra, S., Korol, W., Ames, R. P., Fabrizio, D. P. A., and Jensen, E. M. A Human Leukocyte Culture with an Unusual Cytoplasmic Envelopment of Herpes-type Particles, 441
- Chang, L. O., Schnaitman, C. A., and Morris, H. P. Comparison of the Mitochondrial Membrane Proteins in Rat Liver and Hepatomas, 108
- Chen, C-C. See Lin, Liu, Chen, and Tung, 921
- Chen, C. M. See Hall, Alam, Chen, Dyson, Hong, and Chheda, 704
- Chen, K. See Vaage, Chen, and Merrick, 496 Chevalier, L. See Jones, Holland, Morrison, Lee, Sinks, Cuttner, Rausen, Kung, Pluss, Haurani, Patterson, Blom, Burgert, Moon, Chevalier, Sawitsky, Albala, Forcier, Falkson, and Glidewell, 84
- Chheda, G. B. See Hall, Alam, Chen, Dyson, Hong, and Chheda, 704
- Chiarugi, V. P. Engagement of Cytoplasmic Polyribosomes in the Synthesis of Ribosomal Proteins in Eukaryotic Cells, 847
- Choe, B. K. See Taylor, Volkers, Choe, and Zeikus, 688
- Claffin, A. J. See Tchou, Claffin, and Muench, 679
- Clapp, N. K., Tyndall, R. L., and Otten, J.
  A. Differences in Tumor Types and Organ
  Susceptibility in BALB/c and RF Mice
  following Dimethylnitrosamine and
  Diethylnitrosamine, 196
- Clark, E. See Siciliano, Perlmutter, and Clark, 725
- Clarkson, B. D. See Todo, Strife, Fried, and Clarkson, 1330
- Clymer, R. See Rich and Clymer, 803
- Coetzee, M. L. See Ove, Coetzee, and Morris, 1389
- Coffey, J. J., Palm, P. E., Denine, E. P., Baranowsky, P. E., and Kensler, C. J. Species Differences in the Physiological Dispositions of 3-Tritylthio-L-Alanine (NSC 83265), 1908
- Coffin, D. L. See Palmer, Swanson, and Coffin, 730
- Cohen, N. See Hilf, Battaglini, Delmez, Cohen, and Rector, 1195
- Cohen, S. See Turkington, Males, and Cohen, 252
- Cole, P. See Mirra, Cole, and MacMahon, 77
  Cotropia, J. See Prager, Derr, Swann, and
  Cotropia, 1488

- Crabtree, G. W., and Henderson, J. F. Ratelimiting Steps in the Interconversion of Purine Ribonucleotides in Ehrlich Ascites Tumor Cells in Vitro, 985
- Criss, W. E. A Review of Isozymes in Cancer, 1523
- Croft, J. R. See Moos, Maguire, Kitchlew, Swyers, Volk, Croft, Quigley, Fries, Oser, and Anderson, 937
- Cronenberger, J. H., and Kimball, A. P. Studies on a Model Immunological System. 1257
- Cuttner, J. See Jones, Holland, Morrison, Lee, Sinks, Cuttner, Rausen, Kung, Pluss, Haurani, Patterson, Blom, Burgert, Moon, Chevalier, Sawitsky, Albala, Forcier, Falkson, and Glidewell. 84
- D'Agostino, M. A. See Kalf, D'Agostino, and Hunter, 2054
- Dalton, A. J. See Heine, Kondratick, Ablashi, Armstrong, and Dalton, 542
- Damle, S. P. See Wolpert, Damle, Brown, Sznycer, Agrawal, and Sartorelli, 1620
- D'Angelo, J. M. See Groth, D'Angelo, Vogler, Mingioli, and Betz, 332
- Dao, T. L., King, C., and Tominaga, T. Isolation, Identification, and Biological Study of Compounds Derived from 3-Methylcholanthrene by Irradiation in Dimethyl Sulfoxide, 1492
- Daoust, R., and Calamai, R. Hyperbasophilic Foci as Sites of Neoplastic Transformation in Hepatic Parenchyma, 1290
- Das, L. See Jaffe, Traggis, Das, Moloney, Hann, Kim, and Nair, 942
- D'Ath, E. F. See Rappaport, Bielschowsky, D'Ath, and Goodall, 2047
- Datta, S. K., and Vandeputte, M. Studies on Cellular and Humoral Immunity to Tumor-specific Antigens in Polyoma Virus-induced Tumors of Rats, 882
- Davidsohn, I., Ni, L. Y., and Stejskal, R. Tissue Isoantigens A, B, and H in Carcinoma of the Pancreas, 1244
- Davidson, J. K. See Rice and Davidson, 2008Davies, J. N. P. See Horton, Hotchin, Olson, and Davies, 1066
- Dawson, P. J., and Fieldsteel, A. H. The Influence of Age on Chronic Remittent Friend Disease, 974
- Deckers, P. J., Edgerton, B. W., Thomas, B. S., and Pilch, Y. H. The Adoptive Transfer of Concomitant Immunity to Murine Tumor Isografts with Spleen Cells from Tumor-bearing Animals, 734
- de Harven, E. See Sato, Friend, and de Harven, 1402
- Deichmann, W. B. See Radomski, Brill, Deichmann, and Glass, 1461; Radomski, Glass, and Deichmann, 1690
- Dell'Orco, R. T., Blair, D. G. R., and Morgan, J. F. Comparative Transfer RNA Methylase Capacity in Mouse Ascites Tumors and in Their Derived Tumorigenic

- and Nontumorigenic Cell Cultures, 561
- Delmez, J. A. See Hilf, Battaglini, Delmez, Cohen, and Rector, 1195
- Denekamp, J., and Thomlinson, R. H. The Cell Proliferation Kinetics of Four Experimental Tumors after Acute X-irradiation, 1279
- Denine, E. P. See Coffey, Palm, Denine, Baranowsky, and Kensler, 1908
- Derr, I. See Prager, Derr, Swann, and Cotropia, 1488
- De Sole, P. See Mondovi, Strom, Agrò, Caiafa, De Sole, Bozzi, Rotilio, and Rossi Fanelli, 505
- Devik, F. See Hennings and Devik, 277
- DeVita, V. T., Jr. See Rosenberg, Boiron, DeVita, Johnson, Lee, Ultmann, and Viamonte, 1862
- DeVita, V. T., Jr., Bagley, C. M., Jr., Goodell, B., O'Kieffe, D. A., and Trujillo, N. P. Peritoneoscopy in the Staging of Hodgkin's Disease, 1746
- DeVita, V. T., Jr., and Carbone, P. P. Chemotherapeutic Implications of Staging in Hodgkin's Disease, 1838
- Di Cuonzo, G. See Casazza, Di Marco, and Di Cuonzo, 1971
- Dietz, M. H., and Flaxman, B. A. Toxicity of Aromatic Hydrocarbons on Normal Human Epidermal Cells in Vitro, 1206
- Di Marco, A. See Casazza, Di Marco, and Di Cuonzo, 1971
- Di Marco, A. T., Franceschi, C., Xerri, L., and Prodi, G. Depression of Homograft Rejection and Graft-versus-Host Reactivity following 7,12-Dimethylbenz(a)anthracene Exposure in the Rat, 1446
- DiPaolo, J. A., Nelson, R. L., and Donovan, P. J. Morphological, Oncogenic, and Karyological Characteristics of Syrian Hamster Embryo Cells Transformed in Vitro by Carcinogenic Polycyclic Hydrocarbons, 1118
- Dmochowski, L. See Shigematsu, Dmochowski, and Williams, 2085
- Doell, R. G., and Mathieson, B. J. Serological Studies of Tumor Antigens in Chemicaland Virus-induced Thymic Lymphomas, 1285
- Dolowy, W. C. See Schrek and Dolowy, 523
  Donovan, P. J. See DiPaolo, Nelson, and
- Donovan, 1118

  Dorfman, R. F. Formal Discussion of Robert
  J. Lukes' Paper, "Criteria for Involvement
  of Lymph Node, Bone Marrow, Spleen,
  and Liver in Hodgkin's Disease," 1768;
- of Lymph Node, Bone Marrow, Spleen, and Liver in Hodgkin's Disease," 1768; Relationship of Histology to Site in Hodgkin's Disease, 1786; See also Rappaport, Berard, Butler, Dorfman, Lukes, and Thomas, 1864
- Dorsett, M. T. See Gentry, Morse, and Dorsett, 909
- Dunaway, G. A., Jr., and Smith, E. C. A Comparative Study of Some of the Enzymes Involved in Glucose Metabolism

- of Human Diploid and SV40-transformed Human Diploid Cells, 1418
- Dunbar, L. M. See Bailey and Dunbar, 91Dyson, W. H. See Hall, Alam, Chen, Dyson, Hong, and Chheda, 704
- Edgerton, B. W. See Deckers, Edgerton, Thomas, and Pilch, 734
- Edwards, G. S. See Wogan, Edwards, and Newberne, 1934
- Edwards, G. S., Wogan, G. N., Sporn, M. B., and Pong, R. S. Structure-Activity Relationships in DNA Binding and Nuclear Effects of Aflatoxin and Analogs, 1943
- Elwood, J. C. See Selkirk, Elwood, and Morris, 27
- Emmelot, P. See Vernie, Bont, and Emmelot, 2189
- Engstrom, P. F. See Bornstein, Hungerford, Haller, Engstrom, and Yarbro, 2004
- Epstein, S. M. See Merkow, Epstein, Slifkin, Farber, and Pardo, 174; Witschi, Epstein, and Farber, 270
- Epstein, S. S. See Asahina, Friedman, Arnold, Millar, Mishkin, Bishop, and Epstein, 1201
- Epstein, S. S., Buu-Hoi, N. P., and Hien, D-P. On the Association between Photodynamic and Enzyme-inducing Activities in Polycyclic Compounds, 1087
- Fabrizio, D. P. A. See Chandra, Korol, Ames, Fabrizio, and Jensen, 441
- Falkson, G. See Jones, Holland, Morrison, Lee, Sinks, Cuttner, Rausen, Kung, Pluss, Haurani, Patterson, Blom, Burgert, Moon, Chevalier, Sawitsky, Albala, Forcier, Falkson, and Glidewell, 84
- Farber, E. See Lieberman, Baney, Lee, Sell, and Farber, 1297; Lieberman, Sell, and Farber, 1307; Merkow, Epstein, Slifkin, Farber, and Pardo, 174; Witschi, Epstein, and Farber, 270
- Feldman, D. G., and Gross, L. Electron Microscopic Study of Spontaneous Mammary Carcinomas in Cats and Dogs: Virus-like Particles in Cat Mammary Carcinomas, 1261
- Ferdinandus, J. A., Morris, H. P., and Weber, G. Behavior of Opposing Pathways of Thymidine Utilization in Differentiating, Regenerating, and Neoplastic Liver, 550
- Fieldsteel, A. H. See Dawson and Fieldsteel, 974
- Fink, L. M. See Weinstein, Grunberger, Fujimura, and Fink, 651
- Firat, D., and Banzon, J. Erythropoietic Effect of Plasma from Patients with Advanced Cancer, 1355
- Fischberg, M. See Hadji-Azimi and Fischberg, 1594
- Fisher, B., Szuch, P., and Fisher, E. R. Evaluation of a Humoral Factor in Liver

- Regeneration Utilizing Liver Transplants, 322
- Fisher, E. R. See Fisher, Szuch, and Fisher,
- Fishman, W. H., Inglis, N. R., and Green, S. Regan Isoenzyme: A Carcinoplacental Antigen<sup>fn</sup>, 1054
- Flamant, R. See Tubiana, Attié, Flamant, Gérard-Marchant, and Hayat, 1801
- Flaxman, B. A. See Dietz and Flaxman, 1206
  Flesher, J. A., and Sydnor, K. L. Carcinogenicity of Derivatives of 7,12-Dimethylbenz(a)anthracene, 1951
- Forcier, R. J. See Jones, Holland, Morrison, Lee, Sinks, Cuttner, Rausen, Kung, Pluss, Haurani, Patterson, Blom, Burgert, Moon, Chevalier, Sawitsky, Albala, Forcier, Falkson, and Glidewell, 84
- Fort, L. See Taper, Fort, and Brucher, 913
- Franceschi, C. See Di Marco, Franceschi, Xerri, and Prodi, 1446
- Frei, E., III, and Gehan, E. A. Definition of Cure for Hodgkin's Disease, 1828
- Frenster, J. H. Electron Microscopic Localization of Acridine Orange Binding to DNA within Human Leukemic Bone Marrow Cells, 1128
- Fried, J. See Todo, Strife, Fried, and Clarkson, 1330
- Friedman, D. L. See Baumunk and Friedman, 1930
- Friedman, M. A. See Asahina, Friedman, Arnold, Millar, Mishkin, Bishop, and Epstein, 1201
- Friend, C. See Sato, Friend, and de Harven, 1402
- Fries, J. R. See Moos, Maguire, Kitchlew, Swyers, Volk, Croft, Quigley, Fries, Oser, and Anderson, 937
- Fritz, R. B. See Langlois, Vepřek, Beard, Fritz, and Beard, 1010
- Fry, R. J. M. See Peraino, Fry, and Staffeldt, 1506
- Fujihara, E. See Tani, Ametani, Ishijima, Higashi, and Fujihara, 1210; Tani, Takeuchi, Ishijima, Higashi, Fujihara, Ametani, and Ando, 2120
- Fujimura, S. See Weinstein, Grunberger, Fujimura, and Fink, 651
- Fujioka, S., Ting, R. C., and Gallo, R. C.
  Transfer RNA Methylases of Normal
  Cells, Virus-transformed Cells, and
  Tumors Derived from Transformed Cells,
  451
- Gabaldón, M. See Lacomba and Gabaldón,
- Gale, G. R., Howle, J. A., and Walker. E. M., Jr. Antitumor and Antimitogenic Properties of cis-Dichloro(dipyridine)platinum(11), 950
- Gallo, R. C. Transfer RNA and Transfer RNA Methylation in Growing and "Resting" Adult and Embryonic Tissues and in

- Various Oncogenic Systems, 621. See also Fujioka, Ting, and Gallo, 451; Waalkes, Adamson, O'Gara, and Gallo, 1069
- Gantt, R. R. In Viiro Transfer RNA Methylation in Paired Neoplastic and Nonneoplastic Cell Cultures, 609
- Garland, M. R. See Redman, Garland, Thomson, Ng, and Richards, 265
- Garland, M. R., Ng, T., and Richards, J. F. Hormonal Effects on Thymidine Kinase Activity in Normal Rat Adrenal and in Hormone-dependent Adrenal Carcinoma, 1348
- Gefter, M. L., and Bikoff, E. Studies on Synthesis and Modification of Transfer RNA, 667
- Gehan, E. A. See Frei and Gehan, 1828 Geissman, T. A. See Lee, Huang, Piantadosi, Pagano, and Geissman, 1649
- Gentry, G. A., Morse, P. A., Jr., and Dorsett, M. T. In Vivo Inhibition of Pyrimidine Catabolism by 5-Cyanouracil, 909
- Gentry, M. A. See Yunis and Gentry, 39
- Gérard-Marchant, R. See Tubiana, Attié, Flamant, Gérard-Marchant, and Hayat, 1801
- Gerron, G. G. See Rudman, Vogler, Howard, and Gerron, 1159
- Gibson, M. H. L. See Bertalanffy and Gibson, 66
- Gizis, F. See Rothenberg and Gizis, 1095
- Glass, E. M. See Radomski, Brill, Deichmann, and Glass, 1461; Radomski, Glass, and Deichmann, 1690
- Glidewell, O. See Jones, Holland, Morrison, Lee, Sinks, Cuttner, Rausen, Kung, Pluss, Haurani, Patterson, Blom, Burgert, Moon, Chevalier, Sawitsky, Albala, Forcier, Falkson, and Glidewell, 84
- Glover, M. K. See Johnson, Glover, and Marshall, 1834
- Glynn, J. P., and Kende, M. Treatment of Moloney Virus-induced Leukemia with Cyclophosphamide and Specifically Sensitized Allogeneic Cells, 1383
- Godrick, E. A. See Vanwijck, Godrick, Smith, Goldweitz, and Wilson, 1559
- Goldenberg, D. M., Bhan, R. D., and Pavia, R. A. In Vivo Human-Hamster Somatic Cell Fusion Indicated by Glucose 6-Phosphate Dehydrogenase and Lactate Dehydrogenase Profiles, 1148
- Goldenberg, G. J., Lyons, R. M., Lepp, J. A., and Vanstone, C. L. Sensitivity to Nitrogen Mustard as a Function of Transport Activity and Proliferative Rate in L5178Y Lymphoblasts, 1616
- Goldenberg, H. See Hilf, Bell, Goldenberg, and Michel, 1111; Hilf, Goldenberg, Michel, Gruenstein, Meranze, and Shimkin, 52
- Goldfarb, S., and Pitot, H. C. The Regulation of β-Hydroxy-β-methylglutaryl Coenzyme A Reductase in Morris Hepatomas 5123C, 7800, and 9618A, 1879

- Goldfeder, A. See Potmesil and Goldfeder, 789
- Goldin, A. See Straus, Mantel, and Goldin, 1429
- Goldstein, M. N. Annulate Lamellae in Cultured Human Neuroblastoma Cells, 209
- Goldweitz, J. See Vanwijck, Godrick, Smith, Goldweitz, and Wilson, 1559
- Gonano, F., and Pirrò, G. Studies on Transfer RNA<sup>phe</sup> from Morris 5123C Hepatoma, 656
- Goodall, C. M. See Rappaport, Bielschowsky, D'Ath, and Goodall, 2047
- Goodell, B. See DeVita, Bagley, Goodell, O'Kieffe, and Trujillo, 1746
- Green, S. See Fishman, Inglis, and Green, 1054; Mamaril and Green, 487
- Grice, H. C. See Zawidzka and Grice, 1990 Gross, L. See Feldman and Gross, 1261
- Groth, D. P., D'Angelo, J. M., Vogler, W. R., Mingioli, E. S., and Betz, B. Selective Metabolic Effects of 1,3-Bis(2-chloroethyl)-1-nitrosourea upon de Novo Purine Biosynthesis, 332
- Groupé, V. See Schlom, Moloney, and Groupé, 260
- Gruenstein, M. See Hilf, Goldenberg, Michel, Gruenstein, Meranze, and Shimkin, 52; Shimkin, Gruenstein, and Meranze, 957
- Grunberger, D. See Weinstein, Grunberger, Fujimura, and Fink, 651
- Gullino, P. M. See Watters and Gullino, 1231
  Gutmann, H. R. See Malejka-Giganti, Gutmann, Rydell, and Yost, 778; Zieve and Gutmann, 471
- Hacker, B. See Mandel, Hacker, and Maag, 613
- Hadji-Azimi, I., and Fischberg, M. Normal and Cancerous Tissue Transplantation in Allogeneic and Syngeneic Xenopus laevis, 1594
- Hagmann, 1. See Siegler, Hagmann, and Kelman, 203
- Hakala, M. T. Homofolate and Tetrahydrohomofolate, Inhibitors of Purine Synthesis, 813. See also Weiss and Hakala, 1369
- Hall, R. H., Alam, S. N., Chen, C. M., Dyson, W. H., Hong, C. I., and Chheda, G. B. Physiological Activity of Derivatives of a Modified Component of Transfer RNA, N-(Nebularin-6-ylcarbamoyl)-L-threonine, 704
- Haller, G. See Bornstein, Hungerford, Haller, Engstrom, and Yarbro, 2004
- Hanafusa, H. See Vaheri and Hanafusa, 2033
   Hancock, R. L. The Alkylation of Transfer RNA by Enzymes from Embryonic, Neoplastic, and Ethionine-treated Liver Tissues, 617. See also Kandutsch and Hancock, 1396
- Hann, H. W. See Jaffe, Traggis, Das, Moloney, Hann, Kim, and Nair, 942

- Hanna, C. See Burns, Soloff, Hanna, and Buxton, 159
- Hansen, H. H., Selawry, O. S., Muggia, F. M., and Walker, M. D. Clinical Studies with 1 (2 Chloroethyl) 3 cyclohexyl l-nitrosourea (NSC 79037), 223
- Haran-Ghera, N. See Neumann, Wilson, Hauck-Granoth, and Haran-Ghera, 1695; Wilson, Neumann, and Haran-Ghera, 1702
- Hard, G. C., and Butler, W. H. Ultrastructural Study of the Development of Interstitial Lesions Leading to Mesenchymal Neoplasia Induced in the Rat Renal Cortex by Dimethylnitrosamine, 337; Ultrastructural Analysis of Renal Mesenchymal Tumor Induced in the Rat by Dimethylnitrosamine, 348; Ultrastructural Aspects of Renal Adenocarcinoma Induced in the Rat by Dimethylnitrosamine, 366; Morphogenesis of Epithelial Neoplasms Induced in the Rat Kidney by Dimethylnitrosamine, 1496
- Hardy, W. D., Jr. See McDonough, Larsen, Brodey, Stock, and Hardy, 953
- Harris, C. C., Sporn, M. B., Kaufman, D. G., Smith, J. M., Baker, M. S., and Saffiotti, U. Acute Ultrastructural Effects of Benzo[a]pyrene and Ferric Oxide on the Hamster Tracheobronchial Epithelium, 1977.
- Haslam, S. See Nandi and Haslam, 479
- Hatfield, D., Portugal, F. H., and Caicuts, M. Transfer RNA Specificity in Mammalian Tissues and Codon Responses of Seryl Transfer RNA, 697
- Hatzfeld, A. See Schapira, Hatzfeld, and Reuber, 1224
- Hauck-Granoth, R. See Neumann, Wilson, Hauck-Granoth, and Haran-Ghera, 1695
- Haurani, F. I. See Jones, Holland, Morrison, Lee, Sinks, Cuttner, Rausen, Kung, Pluss, Haurani, Patterson, Blom, Burgert, Moon, Chevalier, Sawitsky, Albala, Forcier, Falkson, and Glidewell, 84
- Hawk, I. A. See Russell, Levy, Schimpff, and Hawk, 1555
- Hayashi, K. See Hirono, Hayashi, Mori, and Miwa, 283
- Hayat, M. See Tubiana, Attié, Flamant, Gérard-Marchant, and Hayat, 1801
- Heidelberger, C. See Huberman, Selkirk, and Heidelberger, 2161; Kuroki and Heidelberger, 2168
- Heidrick, M. L., and Ryan, W. L. Adenosine 3',5'-Cyclic Monophosphate and Contact Inhibition, 1313
- Heilpern, P. See Rizzo, Heilpern, and Webb,
- Heimann, R. See Piessens, Heimann, Legros, and Heuson, 1061
- Heine, U., Ablashi, D. V., and Armstrong, G. R. Morphological Studies on Herpesvirus saimiri in Subhuman and Human Cell Cultures, 1019
- Heine, U., Kondratick, J., Ablashi, D. V.,

- Armstrong, G. R., and Dalton, A. J. Ultrastructural and Biological Properties of a Cytomegalovirus Rescued from a Human Paraganglioma, 542
- Hellman, S. See Chaffey and Hellman, 1613Henderson, J. F. See Crabtree and Henderson, 985
- Hennings, H., and Devik, F. Comparison of Cytotoxicity of Hydroxyurea in Normal and Rapidly Proliferating Epidermis and Small Intestine in Mice, 277
- Hersh, E. M., and Brown, B. W. Inhibition of Immune Responses by Glutamine Antagonism: Effect of Azotomycin on Lymphocyte Blastogenesis, 834
- Hertz, R. See Troncale, Hertz, and Lipkin,
- Heuson, J-C. See Piessens, Heimann, Legros, and Heuson, 1061
- Heuson, J. C., and Legros, N. Effect of Insulin on DNA Synthesis and DNA Polymerase Activity in Organ Culture of Rat Mammary Carcinoma, and the Influence of Insulin Pretreatment and of Alloxan Diabetes. 59
- Hien, D-P. See Epstein, Buu-Hoi, and Hien, 1087
- Higashi, N. See Tani, Ametani, Ishijima, Higashi, and Fujihara, 1210; Tani, Takeuchi, Ishijima, Higashi, Fujihara, Ametani, and Ando. 2120
- Hilf, R., Battaglini, J. W., Delmez, J. A., Cohen, N., and Rector, W. D. Some Biochemical Changes Preceding Regression of 7,12-Dimethylbenz(a)anthracene-induced Mammary Tumors following Oophorectomy, 1195
- Hilf, R., Bell, C., Goldenberg, H., and Michel, I. Effect of Fluphenazine HCl on R3230AC Mammary Carcinoma and Mammary Glands of the Rat, 1111
- Hilf, R., Goldenberg, H., Michel, I., Gruenstein, M., Meranze, D. R., and Shimkin, M. B. Biochemical Events Associated with Regression of 7,12-Dimethylbenz(a)anthracene-induced Mammary Carcinomas after Ovariectomy, 52
- Hirano, M. See Miura, Kawashima, Nishiwaki, Kobayashi, Morita, Ohno, Kakizawa, Uetani, Hirano, and Yamada, 1451; Miura, Kawashima, Uetani, Hirano, Kakizawa, Ohno, Morita, Nishiwaki, and Yamada, 114
- Hirono, I., Hayashi, K., Mori, H., and Miwa, T. Carcinogenic Effects of Cycasin in Syrian Golden Hamsters and the Transplantability of Induced Tumors, 283
- Hofer, K. G., and Hofer, M. Kinetics of Proliferation, Migration, and Death of L1210 Ascites Cells, 402
- Hofer, M. See Hofer and Hofer, 402
- Hoffman, D. H. See Sweeney, Hoffman, and Poore, 477
- Hokama, Y., and Yanagihara, E. The Reversible Inhibition of Catalase Activity by

- Nucleotides and Its Possible Relationship to Mouse Liver Catalase Depression Induced by Biological Substances, 2018
- Holland, J. C., and Spain, J. D. Bile Acid Involvement in Azo Dye Carcinogenesis, 538
- Holland, J. F. E. Pluribus Unum: Presidential Address, 1319. See also Bekesi, St.-Arneault, and Holland, 2130, Jones, Holland, Morrison, Lee, Sinks, Cuttner, Rausen, Kung, Pluss, Haurani, Patterson, Blom, Burgert, Moon, Chevalier, Sawitsky, Albala, Forcier, Falkson, and Glidewell, 84; Ohnuma, Waligunda, and Holland, 1640
- Hollander, V. P. See Biswas and Hollander, 1360
- Holtwick, S. See Pinkerton, Bhagat, Rana, and Holtwick, 1483
- Hong, C. I. See Hall, Alam, Chen, Dyson, Hong, and Chheda, 704
- Horton, J., Hotchin, J. E., Olson, K. B., and Davies, J. N. P. The Effects of MP Virus Infection in Lymphoma, 1066
- Hotchin, J. E. See Horton, Hotchin, Olson, and Davies, 1066
- Howard, C. H. See Rudman, Vogler, Howard, and Gerron, 1159
- Howle, J. A. See Gale, Howle, and Walker, 950
- Hozumi, M. See Shamberger, Hozumi, and Morris, 1632
- Hruban, Z. See Mochizuki, Hruban, Morris, Slesers, and Vigil, 763
- Hruban, Z., Morris, H. P., Mochizuki, Y., Meranze, D. R., and Slesers, A. Light Microscopic Observations of Morris Hepatomas, 752
- Huang, E-S. See Lee, Huang, Piantadosi, Pagano, and Geissman, 1649
- Huber, R. E. See MacLean and Huber, 1669
  Huberman, E., Selkirk, J. K., and Heidelberger, C. Metabolism of Polycyclic Aromatic Hydrocarbons in Cell Cultures, 2161
- Huebner, R. J. See Oshiro, Riggs, Taylor, Lennette, and Huebner, 1100
- Humphrey, R. M. See Barranco and Humphrey, 191, 583, 1218; Barranco, Romsdahl, and Humphrey, 830
- Hungerford, D. A. See Bornstein, Hungerford, Haller, Engstrom, and Yarbro, 2004
   Hunter, G. R. See Kalf, D'Agostino, and
- Hunter, 2054

  Hunter, L. See Jewell and Hunter, 257
- Hutchison, D. J. See Rader, Hutchison, Sodergren, Vidal, and Philips, 964
- Hutchison, G. Formal Discussion of Brian MacMahon's Paper, "Epidemiological Considerations of Staging in Hodgkin's Disease," 1858. See also Rappaport, Strum, Hutchison, and Allen, 1794
- Inglis, N. R. See Fishman, Inglis, and Green, 1054
- Irie, R. F. Antigenic Cross-reactivity be-

- tween Primary Spontaneous Mouse Mammary Tumors and Their Transplantable Ascites Tumors, 1682
- Irvine, W. T. See James, James, Carter, and Irvine, 1268
- Irving, C. C., Janss, D. H., and Russell, L. T. Lack of N-Hydroxy-2-acetylaminofluorene Sulfotransferase Activity in the Mammary Gland and Zymbal's Gland of the Rat, 387
- Irving, C. C., Peeler, T. C., Veazey, R. A., and Wiseman, R., Jr. Influence of 3-Methylcholanthrene and Diet on the Binding of 2-Acetylaminofluorene and Its N-Hydroxy Metabolite to Rat Liver Nucleic Acids, 1468
- Irving, C. C., and Veazey, R. A. Differences in the Binding of 2-Acetylaminofluorene and Its N-Hydroxy Metabolite to Liver Nucleic Acids of Male and Female Rats, 19
- Irving, C. C., and Wiseman, R., Jr. Studies on the Carcinogenicitity of the Glucuronides of N-Hydroxy-2-acetylaminofluorene and N-2-Fluorenylhydroxylamine in the Rat, 1645
- Ishijima, Y. See Tani, Ametani, Ishijima, Higashi, and Fujihara, 1210; Tani, Takeuchi, Ishijima, Higashi, Fujihara, Ametani, and Ando, 2120
- Itze, L. See Vesselinovitch, Mihailovich, Rao, and Itze, 2143
- Jackson, E. W. See Norris, Jackson, and Aaron, 383
- Jaffe, N., Traggis, D., Das, L., Moloney, W. C., Hann, H. W., Kim, B. S., and Nair, R. L-Asparaginase in the Treatment of Neoplastic Diseases in Children, 942
- James, F., James, V. H. T., Carter, A. E., and Irvine, W. T. A Comparison of in Vivo and in Vitro Uptake of Estradiol by Human Breast Tumors and the Relationship to Steroid Excretion, 1268
- James, V. H. T. See James, James, Carter, and Irvine, 1268
- Janners, M. Y. See Looney, Mayo, Janners, Mellon, Allen, Salak, and Morris, 821
- Janss, D. H. See Irving, Janss, and Russell,
- Janss, D. H., and Moon, R. C. Effect of Endocrine Organ Ablation on the Uptake and Clearance of 9,10-Dimethyl-1,2-benzanthracene-9-1\*C by Mammary Parenchymal Cells of the Rat, 2026
- Jensen, E. M. See Chandra, Korol, Ames, Fabrizio, and Jensen, 441
- Jewell, W. R., and Hunter, L. The Effect of Adrenalectomy and High-Protein Diet on Tumor-altered Albumin Metabolism, 257
- Johnson, R. E. See Rosenberg, Boiron, DeVita, Johnson, Lee, Ultmann, and Viamonte, 1862
- Johnson, R. E., Glover, M. K., and Marshall, S. K. Results of Radiation Therapy and

- Implications for the Clinical Staging of Hodgkin's Disease, 1834
- Jones, B., Holland, J. F., Morrison, A. R., Lee, S. L., Sinks, L. F., Cuttner, J., Rausen, A., Kung, F., Pluss, H. J., Haurani, F. I., Patterson, R. B., Blom, J., Burgert, E. O., Jr., Moon, J. H., Chevalier, L., Sawitsky, A., Albala, M. M., Forcier, R. J., Falkson, G., and Glidewell, O. Daunorubicin (NSC 82151) in the Treatment of Advanced Childhood Lymphoblastic Leukemia. 84
- Jones, D. C. See Castanera, Jones, Kimeldorf, and Rosen, 1543
- Julian, J. A. See McGuire and Julian, 1440
- Kagan, R. See Berard, Thomas, Axtell, Kruse, Newell, and Kagan, 1776
- Kahan, B., and Levine, L. The Occurrence of a Serum Fetal  $\alpha_1$  Protein in Developing Mice and Murine Hepatomas and Teratomas, 930
- Kaiser, C. See McCalla, Reuvers, and Kaiser, 2184
- Kakefuda, T. See Smith, Sporn, Berkowitz, Kakefuda, Callan, and Saffiotti, 199
- Kakizawa, H. See Miura, Kawashima, Nishiwaki, Kobayashi, Morita, Ohno, Kakizawa, Uetani, Hirano, and Yamada, 1451; Miura, Kawashima, Uetani, Hirano, Kakizawa, Ohno, Morita, Nishiwaki, and Yamada. 114
- Kalf, G. F., D'Agostino, M. A., and Hunter, G. R. DNA Biosynthesis by Isolated Mitochondria Stimulation by Cytoplasmic Factors from Neoplastic and Regenerating Tissues, 2054
- Kandutsch, A. A., and Hancock, R. L. Regulation of the Rate of Sterol Synthesis and the Level of β-Hydroxy-β-methylglutaryl Coenzyme A Reductase Activity in Mouse Liver and Hepatomas, 1396
- Kaplan, H. S. Formal Discussion of F. Teillet et al.'s Paper, "A Reappraisal of Clinical and Biological Signs in Staging of Hodgkin's Disease," 1730; Contiguity and Progression in Hodgkin's Disease, 1811. See also Carbone, Kaplan, Musshoff, Smithers, and Tubiana, 1860
- Kataoka, N. See Maruyama, Kataoka, Nagase, Nakada, Sato, and Sasaki, 179
- Kato, A., Ando, K., Tamura, G., and Arima, K. Effects of Some Fatty Acid Esters on the Viability and Transplantability of Ehrlich Ascites Tumor Cells, 501
- Kaufman, D. G. See Harris, Sporn, Kaufman, Smith, Baker, and Saffiotti, 1977
- Kawashima, K. See Miura, Kawashima, Nishiwaki, Kobayashi, Morita, Ohno, Kakizawa, Uetani, Hirano, and Yamada, 1451; Miura, Kawashima, Uetani, Hirano, Kakizawa, Ohno, Morita, Nishiwaki, and Yamada, 114
- Kelman, A. D. See Siegler, Hagmann, and

Kelman, 203

Kemperman, J. H. See Waterhouse and Kemperman, 1273

Kende, M. See Glynn and Kende, 1383

Kensler, C. J. See Coffey, Palm, Denine, Baranowsky, and Kensler, 1908

Kerr, S. J., Sharma, O. K., and Borek, E. Agents of Modulation of the Transfer RNA Methylases, 633

Kessel, D. Transport and Accumulation of Triazenoimidazoles by L1210 Cells, 135; Some Determinants of Camptothecin Responsiveness in Leukemia L1210 Cells, 1883

Kim, B. S. See Jaffe, Traggis, Das, Moloney, Hann, Kim, and Nair, 942

Kim, C-A. H. See Reif and Kim, 1606

Kim, C-A. H., and Reif, A. E. Immunization Schedules for Potent Rabbit Antisera to Leukemia L1210, 7

Kimball, A. P. See Cronenberger and Kimball, 1257

Kimeldorf, D. J. See Castanera, Jones, Kimeldorf, and Rosen, 1543

King, C. See Dao, King, and Tominaga, 1492 Kitano, M. See Mihich and Kitano, 2004

Kitchlew, T. Z. See Moos, Maguire, Kitchlew, Swyers, Volk, Croft, Quigley, Fries, Oser, and Anderson, 937

Kizer, D. E. See Smith and Kizer, 1341

Klein, K. M. See Becker and Klein, 169

Klopfer, U. See Trainin and Klopfer, 1968 Kobayashi, M. See Miura, Kawashima, Nishiwaki, Kobayashi, Morita, Ohno, Kakizawa, Uetani, Hirano, and Yamada, 1451

Koller, L. D., and Olson, C. Pulmonary Fibroblastomas in a Deer with Cutaneous Fibromatosis, 1373

Kondratick, J. See Heine, Kondratick, Ablashi, Armstrong, and Dalton, 542

Kopac, M. J. See Lutton and Kopac, 1564Korol, W. See Chandra, Korol, Ames,Fabrizio, and Jensen, 441

Kostraba, N. C., and Wang, T. Y. Transcription of Walker 256 Carcinosarcoma

Chromatin, 1663 **Kozai, Y., and Sugino, Y.** Enzymatic Phosphorylation of 1-β-D-Arabinofuranosyl-

cytosine, 1376

Kripke, M. See Wexler, Kripke, and

Weiss, 122

Kruse, M. See Berard, Thomas, Axtell,
Kruse. Newell, and Kagan, 1776

Kula, N. S. See Rogers, Kula, and Newberne, 491

Kung, F. See Jones, Holland, Morrison, Lee, Sinks, Cuttner, Rausen, Kung, Pluss, Haurani, Patterson, Blom, Burgert, Moon, Chevalier, Sawitsky, Albala, Forcier, Falkson, and Glidewell, 84

Kuroki, T., and Heidelberger, C. The Binding of Polycyclic Aromatic Hydrocarbons to the DNA, RNA, and Proteins of Transformable Cells in Culture, 2168

Lacomba, T., and Gabaldon, M. Biochemical

Studies of Diethylstilbestrol-induced Kidney Tumors in the Golden Syrian Hamster, 1251

Lalli, A. See Matovinovic, Nishiyama, Lalli, and Poissant, 288

Lambert, A. See Nagatsu, Okagaki, Richart, and Lambert, 992

Langlois, A. J., Vepřek, L., Beard, D., Fritz, R. B., and Beard, J. W. Isolation of a Non-focus-forming Agent from Strain MC29 Avian Leukosis Virus, 1010

Larsen, S. See McDonough, Larsen, Brodey, Stock, and Hardy, 953

Lee, B. J. See Rosenberg, Boiron, DeVita, Johnson, Lee, Ultmann, and Viamonte, 1864

Lee, D. J., Wales, J. H., and Sinnhuber, R. O. Promotion of Aflatoxin-induced Hepatoma Growth in Trout by Methyl Malvalate and Sterculate, 960

Lee, J. C. K., and Richter, G. W. Distinctive Properties of Ferritin from the Reuber H-35 Rat Hepatoma, 566

Lee, K-H., Huang, E-S., Piantadosi, C., Pagano, J. S., and Geissman, T. A. Cytotoxicity of Sesquiterpene Lactones, 1649

Lee, R. E. See Lieberman, Baney, Lee, Sell, and Farber, 1297

Lee, S. L. See Jones, Holland, Morrison, Lee, Sinks, Cuttner, Rausen, Kung, Pluss, Haurani, Patterson, Blom, Burgert, Moon, Chevalier, Sawitsky, Albala, Forcier, Falkson, and Glidewell, 84

Legros, N. See Heuson and Legros, 59; Piessens, Heimann, Legros, and Heuson, 1061

Lennette, E. H. See Oshiro, Riggs, Taylor, Lennette, and Huebner, 1100

LePage, G. A., and Whitecar, J. P., Jr. Pharmacology of 6-Thioguanine in Man,

Lepp, J. A. See Goldenberg, Lyons, Lepp, and Vanstone, 1616

Levine, L. See Kahan and Levine, 930

Levitt, S. H. See Song and Levitt, 587

Levy, C. C. See Russell and Levy, 248; Russell, Levy, Schimpff, and Hawk, 1555

Lewis, R. T. See Macek, Seidel, Lewis, Brunschwig, Wimberly, and Benyesh-Melnick, 308

Ley, K. D. See Tobey and Ley, 46

Li, L. H. See Bhuyan, Neil, Smith, Olin, and Li, 1923

Liebelt, A. G. See Bresnick, Mayfield, Liebelt, and Liebelt, 743

Liebelt, R. A. See Bresnick, Mayfield, Liebelt, and Liebelt, 743

Lieberman, M. W., Baney, R. N., Lee, R. E., Sell, S., and Farber, E. Studies on DNA Repair in Human Lymphocytes Treated with Proximate Carcinogens and Alkylating Agents, 1297

Lieberman, M. W., Sell, S., and Farber, E. Deoxyribonucleoside Incorporation and the Role of Hydroxyurea in a Model Lymphocyte System for Studying DNA Repair in Carcinogenesis, 1307 Lin, J-Y., Liu, K., Chen, C-C., and Tung, T-C. Effect of Crystalline Ricin on the Biosynthesis of Protein, RNA, and DNA in Experimental Tumor Cells, 921

Lindell, A. See Terenius, Lindell, and Persson, 1895

Ling, R. C. See Wu, Al-Saadi, Ling, and McKinnie, 577

Lipkin, M. See Troncale, Hertz, and Lipkin, 463

Litwack, G. See Singer and Litwack, 1364
Litwack, M. See Peterkofsky, Litwack, and
Marmor, 675

Liu, K. See Lin, Liu, Chen, and Tung, 921 Lo, T. M. See McCann, Lo, and Webster, 1573

Loehr, E. V. See Roberts and Loehr, 457,

Lombard, L. S. See Vesselinovitch, Simmons, Mihailovich, Rao, and Lombard, 2133

Looney, W. B., Mayo, A. A., Janners, M. Y., Mellon, J. G., Allen, P., Salak, D., and Morris, H. P. Cell Proliferation and Tumor Growth in Hepatomas 3924A, 821

Louis, C. J., and Blunck, J. M. Alteration in the Distribution of Basic Soluble Rat Liver Proteins during Azo Dye Carcinogenesis, 2110

Louis, J. B. See Paul, Montgomery, and Louis, 413

Love, R., and Soriano, R. Z. Correlation of Nucleolini with Fine Structural Nucleolar Constituents of Cultured Normal and Neoplastic Cells, 1030

Lukes, R. J. Criteria for Involvement of Lymph Node, Bone Marrow, Spleen, and Liver in Hodgkin's Disease, 1755. See also Rappaport, Berard, Butler, Dorfman, Lukes, and Thomas, 1864

Lutton, J. D., and Kopac, M. J. Cartesian Diver Studies on Respiration and Glycolysis of High and Low Sarcoma Lines, 1564

Lyons, R. M. See Goldenberg, Lyons, Lepp, and Vanstone, 1616

Maag, T. A. See Mandel, Hacker, and Maag, 613

Macek, M., Seidel, E. H., Lewis, R. T., Brunschwig, J. P., Wimberly, I., and Benyesh-Melnick, M. Cytogenetic Studies of EB Virus-positive and EB Virus-negative Lymphoblastoid Cell Lines, 308

MacLean, S. J., and Huber, R. E. The Effects of DL-p-Fluorophenylalanine and L-3-Nitrotyrosine on the Growth and Biochemistry of the Taper Liver Tumor, 1669

MacMahon, B. Epidemiological Considerations of Staging in Hodgkin's Disease, 1854. See also Mirra, Cole, and MacMahon, 77

Mäenpää, P. H. See Bernfield and Mäenpää,

Maenza, R. M., Pradhan, A. M., and Sunderman, F. W., Jr. Rapid Induction of Sarcomas in Rats by Combination of Nickel Sulfide and 3,4-Benzpyrene, 2067
 Magee, P. N. The Possible Role of Nucleic

CANCER RESEARCH VOL. 31

- Acid Methylases in the Induction of Cancer, 599
- Maguire, J. A. See Moos, Maguire, Kitchlew, Swyers, Volk, Croft, Quigley, Fries, Oser, and Anderson, 937
- Malathi, V. G. See Rothman, Malathi, and Silber, 274
- Malejka-Giganti, D., Gutmann, H. R., Rydell, R. E., and Yost, Y. Activation of the Carcinogen, N-Hydroxy-2-fluorenylbenzenesulfonamide, by Desulfonylation to N-2-Fluorenylhydroxylamine in Vivo, 778
- Males, J. L. See Turkington, Males, and Cohen, 252
- Mamaril, F. P., and Green, S. Isolation and Partial Characterization of a Glyceraldehyde 3-Phosphate Dehydrogenase-inactivating Factor from Ehrlich Ascites Tumor Cells, 487
- Mandel, L. R., Hacker, B., and Maag, T. A. Altered Transfer RNA Methylase Patterns in Marek's Disease Tumors, 613
- Mantel, N. See Straus, Mantel, and Goldin, 1429
- Margolis, S., Philips, F. S., and Sternberg, S. S. The Cytotoxicity of Methotrexate in Mouse Small Intestine in Relation to Inhibition of Folic Acid Reductase and of DNA Synthesis, 2037
- Marmor, J. See Peterkofsky, Litwack, and Marmor, 675
- Marshall, S. K. See Johnson, Glover, and Marshall, 1834
- Maruyama, T., Kataoka, N., Nagase, S., Nakada, H., Sato, H., and Sasaki, H. Identification of Three-Line Electron Spin Resonance Signal and Its Relationship to Ascites Tumors, 179
- Mathieson, B. J. See Doell and Mathieson, 1285
- Matovinovic, J., Nishiyama, R. H., Lalli, A., and Poissant, G. "Benign Metastasizing Goiter" of Cohnheim: An Experimental Study with the Transplantable Thyroid Tumor of the Rat, 288
- Maxfield, W. S. See Segaloff and Maxfield, 166
- Mayfield, E. D., Jr. See Bresnick, Mayfield, Liebelt, and Liebelt, 743
- Mayo, A. A. See Looney, Mayo, Janners, Mellon, Allen, Salak, and Morris, 821
- McCalla, D. R., Reuvers, A., and Kaiser, C. Breakage of Bacterial DNA by Nitrofuran Derivatives, 2184
- McCann, B. See Breslow and McCann, 2098
  McCann, J. J., Lo, T. M., and Webster, D. A.
  Cross-linking of DNA by Alkylating
  Agents and Effects on DNA Function in
  the Chick Embryo, 1573
- McCormick, K. J., Anderson, J. P., Stenback, W. A., and Trentin, J. J. Occurrence of Antibodies to the T Antigen of Chicken Embryo Lethal Orphan Virus, 981
- McCulloch, E. A. See Ogawa, Bergsagel, and McCulloch, 2116
- McDonough, S. K., Larsen, S., Brodey, R. S., Stock, N. D., and Hardy, W. D., Jr.

- A Transmissible Feline Fibrosarcoma of Viral Origin, 953
- McGrath, H. See Bartley, McGrath, and Abraham, 527
- McGuire, W. L., and Julian, J. A. Comparison of Macromolecular Binding of Estradiol in Hormone-dependent and Hormone-independent Rat Mammary Carcinoma, 1440
- McIntire, K. R. See Sizaret, McIntire, and Princler, 1903
- McKinnie, K. L., See Wu, Al-Saadi, Ling, and McKinnie, 577
- McLaughlin, C. L. See Rush, McLaughlin, and Solomon, 1134
- Mehard, C. W., Packer, L., and Abraham, S. Activity and Ultrastructure of Mitochondria from Mouse Mammary Gland and Mammary Adenocarcinoma, 2148
- Meites, J. See Cassell, Meites, and Welsch, 1051
- Mellon, J. G. See Looney, Mayo, Janners, Mellon, Allen, Salak, and Morris, 821
- Meranze, D. R. See Hilf, Goldenberg, Michel, Gruenstein, Meranze, and Shimkin, 52; Hruban, Morris, Mochizuki, Meranze, and Slesers, 752; Shimkin, Gruenstein, and Meranze, 957
- Merkow, L. P., Epstein, S. M., Slifkin, M., Farber, E., and Pardo, M. Ultrastructural Alterations within Hyperplastic Liver Nodules Induced by Ethionine, 174
- Merrick, S. See Vaage, Chen, and Merrick,
- Michel, I. See Hilf, Bell, Goldenberg, and Michel, 1111; Hilf, Goldenberg, Michel, Gruenstein, Meranze, and Shimkin, 52
- Mihailovich, N. See Vesselinovitch, Mihailovich, Rao, and Itze, 2143, Vesselinovitch, Simmons, Mihailovich, Rao, and Lombard, 2133
- Mihich, E., and Kitano, M. Differences in the Immunogenicity of Leukemia L1210 Sublines in DNA/2 Mice, 2004
- Milder, J. W. Introduction (Symposium: Staging in Hodgkin's Disease), 1707
- Millar, G. N. See Asahina, Friedman, Arnold, Millar, Mishkin, Bishop, and Epstein, 1201
- Mingioli, E. S. See Groth, D'Angelo, Vogler, Mingioli, and Betz, 332
- Mirra, A. P., Cole, P., and MacMahon, B. Breast Cancer in an Area of High Parity: São Paulo, Brazil, 77
- Mishkin, M. See Asahina, Friedman, Arnold, Millar, Mishkin, Bishop, and Epstein, 1201
- Mittelman, A. Patterns of Isoaccepting Phenylalanine Transfer RNA in Human Leukemia and Lymphoma, 647
- Miura, M., Kawashima, K., Nishiwaki, H., Kobayashi, M., Morita, A., Ohno, R., Kakizawa, H., Uetani, T., Hirano, M., and Yamada, K. A Study of Leukemic Cell Injury by Physical Agents, 1451
- Miura, M., Kawashima, K., Uetani, T., Hirano, M., Kakizawa, H., Ohno, R.,

- Morita, A., Nishiwaki, H., and Yamada, K. Influence of t.-Asparaginase on Antibody Production and Growth of Tumors in Allogeneic Mice, 114
- Miwa, T. See Hirono, Hayashi, Mori, and Miwa, 283
- Mochizuki, Y. See Hruban, Morris, Mochizuki, Meranze, and Slesers, 752
- Mochizuki, Y., Hruban, Z., Morris, H. P., Slesers, A., and Vigil, E. L. Microbodies of Morris Hepatomas, 763
- Moloney, J. B. See Schlom, Moloney, and Groupé, 260
- Moloney, W. C. See Jaffe, Traggis, Das, Moloney, Hann, Kim, and Nair, 942
- Mondovi, B., Strom, R., Agrò, A. F., Caiafa, P., De Sole, P., Bozzi, A., Rotilio, G., and Rossi Fanelli, A. Effect of Polyenic Antibiotics on Ehrlich Ascites and Novikoff Hepatoma Cells, 505
- Montemurro, D. G. See Bruni and Montemurro, 854, 1903
- Montgomery, P. O'B., Jr. See Paul, Montgomery, and Louis, 413
- Moon, J. H. See Jones, Holland, Morrison, Lee, Sinks, Cuttner, Rausen, Kung, Pluss, Haurani, Patterson, Blom, Burgert, Moon, Chevalier, Sawitsky, Albala, Forcier, Falkson, and Glidewell, 84
- Moon, R. C. See Janss and Moon, 2026
- Moore, E. C. See Booth, Moore, and Sartorelli, 228
- Moore, E. C., Booth, B. A., and Sartorelli, A. C. Inhibition of Deoxyribonucleotide Synthesis by Pyridine Carboxyaldehyde Thiosemicarbazones, 235
- Moos, G. E., Maguire, J. A., Kitchlew, T. Z., Swyers, W. A., Volk, P. Z., Croft, J. R., Quigley, M. J., Fries, J. R., Oser, N. A., and Anderson, L. J. Inhibition of Growth of Ehrlich Ascites Tumors in ICR/Ha Swiss Mice by Isocyanates, 937
- Morgan, J. F. See Dell'Orco, Blair, and Morgan, 561
- Mori, H. See Hirono, Hayashi, Mori, and Miwa, 283
- Morita, A. See Miura, Kawashima, Nishiwaki, Kobayashi, Morita, Ohno, Kakizawa, Uetani, Hirano, and Yamada, 1451; Miura, Kawashima, Uetani, Hirano, Kakizawa, Ohno, Morita, Nishiwaki, and Yamada, 114
- Moroson, H. Polycation-treated Tumor Cells in Vivo and in Vitro, 373
- Morris, H. P. See Allen, Munshower, Morris, and Weber, 557; Byvoet and Morris, 468; Chang, Schnaitman, and Morris, 108; Ferdinandus, Morris, and Weber, 550; Hruban, Morris, Mochizuki, Meranze, and Slesers, 752; Looney, Mayo, Janners, Mellon, Allen, Salak, and Morris, 821; Mochizuki, Hruban, Morris, Slesers, and Vigil, 763; Ove, Coetzee, and Morris, 1389; Queener, Morris, and Weber, 1004; Reynolds, Scott, Potter, and Morris, 1580; Selkirk, Elwood, and Morris, 27; Shamberger, Hozumi, and Morris, 1632; Sheid,

XUM

- Wilson, and Morris, 774; Weber, Stubbs, and Morris, 2177; Wu, Bauer, and Morris, 12
- Morris, N. R., and Pih, K. D. The Preparation of Soluble DNA Methylase from Normal and Regenerating Rat Liver, 433
- Morrison, A. R. See Jones, Holland, Morrison, Lee, Sinks, Cuttner, Rausen, Kung, Pluss, Haurani, Patterson, Blom, Burgert, Moon, Chevalier, Sawitsky, Albala, Forcier, Falkson, and Glidewell, 84
- Morrison, S. D. Partition of Energy Expenditure between Host and Tumor, 98 Morse, P. A., Jr. See Gentry, Morse, and Dorsett, 909
- Muench, K. H. See Tchou, Classin, and Muench, 679
- Muggia, F. M. See Hansen, Selawry, Muggia, and Walker, 223
- Munshower, J. See Allen, Munshower, Morris, and Weber, 557
- Musshoff, K. Prognostic and Therapeutic Implications of Staging in Extranodal Hodgkin's Disease, 1814. See also Carbone, Kaplan, Musshoff, Smithers, and Tubiana, 1860
- Nagase, S. See Maruyama, Kataoka, Nagase, Nakada, Sato, and Sasaki, 179
- Nagatsu, M., Okagaki, T., Richart, R. M., and Lambert, A. Effects of Bleomycin on Nuclear DNA in Transplantable VX-2 Carcinoma of Rabbit, 992
- Nair, R. See Jaffe, Traggis, Das, Moloney, Hann, Kim, and Nair, 942
- Nakada, H. See Maruyama, Kataoka, Nagase, Nakada, Sato, and Sasaki, 179
- Nandi, S., and Haslam, S. Localization of Mammary Tumor Virus inside Red Blood Cells of Mice, 479
- Neidhardt, F. C. Introduction to the Second Part of the Symposium, 662. See also
- Björk and Neidhardt, 706 Neil, G. L. See Bhuyan, Neil, Smith, Olin,
- and Li, 1923 Nelson, R. L. See DiPaolo, Nelson, and Donovan, 1118
- Neumann, H. See Wilson, Neumann, and Haran-Ghera, 1702
- Neumann, H., Wilson, K. J., Hauck-Granoth, R., and Haran-Ghera, N. A Comparative Biochemical Study of Alkaline Phosphatases in Normal and Leukemic Mice. 1695
- Newberne, P. M. See Rogers, Kula, and Newberne, 491; Wogan, Edwards, and Newberne, 1934
- Newell, G. See Berard, Thomas, Axtell, Kruse, Newell, and Kagan, 177
- Ng, T. See Garland, Ng, and Richards, 1348; Redman, Garland, Thomson, Ng, and Richards, 265
- Ni, L. Y. See Davidsohn, Ni, and Stejskal, 1244
- Nichols, T. M. The Morphological Effects of Estrogen Removal on an Estrogen-de-

- pendent Adrenocortical Carcinoma in Rats, 1042
- Nishiwaki, H. See Miura, Kawashima, Nishiwaki, Kobayashi, Morita, Ohno, Kakizawa, Uetani, Hirano, and Yamada, 1451; Miura, Kawashima, Uetani, Hirano, Kakizawa, Ohno, Morita, Nishiwaki, and Yamada, 114
- Nishiyama, R. H. See Matovinovic, Nishiyama, Lalli, and Poissant, 288
- Norris, F. D., Jackson, E. W., and Aaron, E. Prospective Study of Dog Bite and Childhood Cancer, 383
- O'Gara, R. W. See Waalkes, Adamson, O'Gara, and Gallo, 1069
- Ogawa, M., Bergsagel, D. E., and McCulloch, E. A. Differential Effects of Melphalan on Mouse Myeloma (Adj.-PC5) and Hemopoietic Stem Cells, 2116
- Ohno, R. See Miura, Kawashima, Nishiwaki, Kobayashi, Morita, Ohno, Kakizawa, Uetani, Hirano, and Yamada, 1451; Miura, Kawashima, Uetani, Hirano, Kakizawa, Ohno, Morita, Nishiwaki, and Yamada, 114
- Ohnuma, T., Waligunda, J., and Holland, J. F. Amino Acid Requirements in Vitro of Human Leukemic Cells, 1640
- Okagaki, T. See Nagatsu, Okagaki, Richart, and Lambert, 992
- O'Kieffe, D. A. See DeVita, Bagley, Goodell, O'Kieffe, and Trujillo, 1746
- Okita, G. T. See Burki and Okita, 1955 Olin, E. J. See Bhuyan, Neil, Smith, Olin, and Li, 1923
- Olson, C. See Koller and Olson, 1373
- Olson, K. B. See Horton, Hotchin, Olson, and Davies, 1066
- Oser, N. A. See Moos, Maguire, Kitchlew, Swyers, Volk, Croft, Quigley, Fries, Oser, and Anderson, 937
- Oshiro, L. S., Riggs, J. L., Taylor, D. O. N., Lennette, E. H., and Huebner, R. J. Ferritin-labeled Antibody Studies of Feline C-type Particles, 1100
- Otten, J. A. See Clapp, Tyndall, and Otten, 196
- Ove, P., Coetzee, M. L., and Morris, H. P. DNA Synthesis and the Effect of Sucrose in Nuclei of Host Liver and Morris Hepatomas, 1389
- Packer, L. See Mehard, Packer, and Abraham, 2148
- Pagano, J. S. See Lee, Huang, Piantadosi, Pagano, and Geissman, 1649
- Palm, P. E. See Coffey, Palm, Denine, Baranowsky, and Kensler, 1908
- Palmer, M. S., Swanson, D. H., and Coffin, D. L. Effect of Ozone on Benzpyrene Hydroxylase Activity in the Syrian Golden Hamster, 730
- Pardo, M. See Merkow, Epstein, Slifkin, Farber, and Pardo, 174
- Paris, J. E., and Brandes, D. Effect of X-ir-

- radiation on the Functional Status of Lysosomal Enzymes of Mouse Mammary Gland Carcinomas, 392
- Parry, N. T. See Recher, Briggs, and Parry, 140; Recher, Parry, Briggs, and Whitescarver, 1915
- Pasqualini, C. D. See Saal, Pasqualini, and Rabasa, 23
- Patterson, R. B. See Jones, Holland, Morrison, Lee, Sinks, Cuttner, Rausen, Kung, Pluss, Haurani, Patterson, Blom, Burgert, Moon, Chevalier, Sawitsky, Albala, Forcier, Falkson, and Glidewell, 84
- Paul, J. S., Montgomery, P. O'B., Jr., and Louis, J. B. A Proposed Model of the Interaction of 4-Nitroquinoline 1-Oxide with DNA, 413
- Pavia, R. A. See Goldenberg, Bhan, and Pavia, 1148
- Pearson, O. H. See Butler and Pearson, 817 Peck, E. B. See Peck and Peck, 1550
- Peck, R. M., and Peck, E. B. Inhibition of Chemically Induced Neoplasia by Immunization with an Antigenic Carcinogen-Protein Conjugate, 1550
- Peeler, T. C. See Irving, Peeler, Veazey, and Wiseman, 1468
- Peraino, C., Fry, R. J. M., and Staffeldt, E. Reduction and Enhancement by Phenobarbital of Hepatocarcinogenesis Induced in the Rat by 2-Acetylaminofluorene, 1506
- Perlmutter, A. See Siciliano, Perlmutter, and Clark, 725
- Persson, B. H. See Terenius, Lindell, and Persson, 1895
- Peterkofsky, A., Litwack, M., and Marmor, J. Modified Bases and Transfer RNA Function, 675
- Peters, M. V. The Need for a New Clinical Classification in Hodgkin's Disease: Keynote Address, 1713; Summary of Informal Discussion on the Prognostic and Therapeutic Implications of Staging in Hodgkin's Disease, 1851
- Philips, F. S. See Margolis, Philips, and Sternberg, 2037; Rader, Hutchison, Sodergren, Vidal, and Philips, 964
- Piantadosi, C. See Lee, Huang, Piantadosi, Pagano, and Geissman, 1649
- Pierce, G. B., and Wallace, C. Differentiation of Malignant to Benign Cells, 127
- Piessens, W. F., Heimann, R., Legros, N., and Heuson, J-C. Effect of Bacillus Calmette-Guérin on Mammary Tumor Formation and Cellular Immunity in Dimethylbenz(a)anthracene - treated Rats, 1061
- Pih, K. D. See Morris and Pih, 433
- Pilch, Y. H. See Deckers, Edgerton, Thomas, and Pilch, 734
- Pillinger, D. J., and Wilkinson, R. Initiation of Malignant Transformation and the Significance of Changes in Transfer RNA Methylase Enzymes, 630
- Pinkerton, H., Bhagat, B., Rana, M. W., and Holtwick, S. Histology and Ultra-

- structure of Cultured Human Tumor Cells Exposed to Antisera to the Nerve Growth Factor, 1483
- Pirrò, G. See Gonano and Pirrò, 656
- Pitot, H. C. See Goldfarb and Pitot, 1879; Reynolds, Potter, Pitot, and Reuber, 808
- Pluss, H. J. See Jones, Holland, Morrison, Lee, Sinks, Cuttner, Rausen, Kung, Pluss, Haurani, Patterson, Blom, Burgert, Moon, Chevalier, Sawitsky, Albala, Forcier, Falkson, and Glidewell, 84
- Poissant, G. See Matovinovic, Nishiyama, Lalli, and Poissant, 288
- Pong, R. S. See Edwards, Wogan, Sporn, and Pong, 1943
- Poore, G. A. See Sweeney, Hoffman, and Poore, 477
- Portugal, F. H. See Hatfield, Portugal, and Caicuts, 697
- Potmesil, M., and Goldfeder, A. Nucleolar Morphology, Nucleic Acid Synthesis, and Growth Rates of Experimental Tumors, 789
- Potter, V. R. See Reynolds, Potter, Pitot, and Reuber, 808; Reynolds, Scott, Potter, and Morris, 1580
- Pradhan, A. M. See Maenza, Pradhan, and Sunderman, 2067
- Prager, M. D., Derr, I., Swann, A., and Cotropia, J. Immunization with Chemically Modified Lymphoma Cells, 1488
- Prasad, K. N. Effect of Dopamine and 6-Hydroxydopamine on Mouse Neuroblastoma Cells in Vitro, 1457
- Princler, G. L. See Sizaret, McIntire, and Princler, 1903
- Prodi, G. See Di Marco, Franceschi, Xerri, and Prodi, 1446
- Prutkin, L. Modification of the Effect of Vitamin A Acid on the Skin Tumor Keratoachanthoma by Applications of Actinomycin D, 1080
- Rabasa, S. L. See Saal, Pasqualini, and Rabasa, 23
- Rader, J. I., Hutchison, D. J., Sodergren, J. E., Vidal, P., and Philips, F. S. Urinary and Biliary Excretion of the 2,4-Diaminoquinazoline Antifolate, Methasquin, in Rats and Dogs, 964
- Radomski, J. L., Brill, E., Deichmann, W. B., and Glass, E. M. Carcinogenicity Testing of N-Hydroxy and Other Oxidation and Decomposition Products of 1- and 2-Naphthylamine, 1461
- Radomoski, J. L., Glass, E. M., and Deichmann, W. B. Transitional Cell Hyperplasia in the Bladders of Dogs Fed DL-Tryptophan, 1690
- Rana, M. W. See Pinkerton, Bhagat, Rana, and Holtwick, 1483
- Randerath, K. Application of a Tritium Derivative Method to Human Brain and Brain Tumor Transfer RNA Analysis, 658
- 340, K. V. N. See Vesselinovitch, Mihailo-

- vich, Rao, and Itze, 2143
- Rao, V. See Vesselinovitch, Simmons, Mihailovich, Rao, and Lombard, 2133
- Rappaport, H., Berard, C. W., Butler, J. J., Dorfman, R. F., Lukes, R. J., and Thomas, L. B. Report of the Committee on Histopathological Criteria Contributing to Hodgkin's Disease Staging, 1864
- Rappaport, H., Bielschowsky, M., D'Ath, E. F., and Goodall, C. M. Malignant Lymphomas Arising in Peyer's Patches and Other Organs of Untreated NZO/Bl Mice, 2047
- Rappaport, H., Strum, S. B., Hutchison, G., and Allen, L. W. Clinical and Biological Significance of Vascular Invasion in Hodgkin's Disease, 1794
- Rausen, A. See Jones, Holland, Morrison, Lee, Sinks, Cuttner, Rausen, Kung, Pluss, Haurani, Patterson, Blom, Burgert, Moon, Chevalier, Sawitsky, Albala, Forcier, Falkson, and Glidewell, 84
- Rauth, A. M. See Shuve and Rauth, 1422
  Recher, L., Briggs, L. G., and Parry, N. T. A
  Reevaluation of Nuclear and Nucleolar
  Changes Induced in Vitro by Actinomycin
  D. 140
- Recher, L., Parry, N. T., Briggs, L. G., and Whitescarver, J. Difference in Effects of Proflavine and Actinomycin D on Mammalian Cell Nucleoli, 1915
- Rector, W. D. See Hilf, Battaglini, Delmez, Cohen, and Rector, 1195
- Redding, M. E., Anagnostopoulos, C. E., and Ultmann, J. E. The Possible Value of Mediastinoscopy in Staging Hodgkin's Disease, 1741
- Redman, I., W., Garland, M. R., Thomson, M., Ng, T., and Richards, J. F. Nucleic Acid Metabolism of an Estrogen-dependent Carcinoma of the Adrenal Cortex of the Rat, 265
- Reid, B. D. See Walker and Reid, 510 Reif, A. E. See Kim and Reif, 7
- Reif, A. E., and Kim, C-A. H. Leukemia L1210 Therapy Trials with Antileukemia Serum and Bacillus Calmette-Guérin, 1606
- Reilly, C. A., Jr., and Schloss, G. T. The Erythrocyte as Virus Carrier in Friend and Rauscher Virus Leukemias, 841
- Rennert, O. M. Transfer RNA's of Embryonic Tissue, 637
- Reuber, M. D. See Reynolds, Potter, Pitot, and Reuber, 808; Shapira, Hatzfeld, and Reuber, 1224
- Reuvers, A. See McCalla, Reuvers, and Kaiser, 2184
- Reynolds, R. D., Potter, V. R., Pitot, H. C., and Reuber, M. D. Survey of Some Enzyme Patterns in Transplantable Reuber Mouse Hepatomas, 808
- Reynolds, R. D., Scott, D. F., Potter, V. R., and Morris, H. P. Induction of Tyrosine Aminotransferase and Amino Acid Transport in Morris Hepatomas and in Adult and Neonatal Rat Liver, 1580

- Rice, J. M., and Davidson, J. K. Spontaneous Regression of Chemically Induced Malignant Lymphoma in Swiss Mice, 2008
- Rich, M. A., and Clymer, R. Host Response in Spontaneous Regression of Murine Leukemia, 803
- Richards, J. F. See Garland, Ng, and Richards, 1348; Redman, Garland, Thomson, Ng, and Richards, 265
- Richart, R. M. See Nagatsu, Okagaki, Richart, and Lambert, 992
- Richter, G. W. See Lee and Richter, 566 Richters, A., Sherwin, R. P., and Richters, V. The Lymphocyte and Human Lung Cancers. 214
- Richters, V. See Richters, Sherwin, and Richters, 214
- Riehm, H. See Sobel, Albrecht, Riehm, and Biedler, 297
- Riehm, H., and Biedler, J. L. Cellular Resistance to Daunomycin in Chinese Hamster Cells in Vitro, 409
- Rigby, P. G. The Effect of "Exogenous" RNA on the Improvment of Syngeneic Tumor Immunity, 4
- Riggs, J. L. See Oshiro, Riggs, Taylor, Lennette, and Huebner, 1100
- Rizzo, A. J., Heilpern, P., and Webb, T. E. Temporal Changes in DNA and RNA Synthesis in the Regenerating Liver of Hydrocortisone-treated Rats, 876
- Roberts, D., and Loehr, E. V. Methotrexate and Cytosine Arabinoside Modulation of Thymidylate Synthetase Activity in CCRF-CEM Cells, 457; Elevation of Thymidylate Synthetase Activity in CCRF-CEM Cells, 1181
- Rogers, A. E., Kula, N. S., and Newberne, P. M. Absence of an Effect of Partial Hepatectomy on Aflatoxin B<sub>1</sub> Carcinogenesis,
- Romsdahl, M. M. See Barranco, Romsdahl, and Humphrey, 830
- Rosen, V. J. See Castanera, Jones, Kimeldorf, and Rosen, 1543
- Rosenberg, S. A. Hodgkin's Disease of the Bone Marrow, 1733; A Critique of the Value of Laparotomy and Splenectomy in the Evaluation of Patients with Hodgkin's Disease, 1737
- Rosenberg, S. A., Boiron, M., DeVita, V. T., Jr., Johnson, R. E., Lee, B. J., Ultmann, J. E., and Viamonte, M., Jr. Report of the Committee on Hodgkin's Disease Staging Procedures, 1862
- Rosenkranz, H. S. See Slater, Anderson, and Rosenkranz, 970
- Rossi Fanelli, A. See Mondovì, Strom, Agrò Caiafa, De Sole, Bozzi, Rotilio, and Rossi Fanelli. 505
- Rothenberg, S. P., and Gizis, F. Quantitative Aspects of the Binding of Folic Acid by Folate Antiserum, 1095
- Rothman, I. K., Malathi, V. G., and Silber, R. Nucleoside Deaminase Activity in Viral Leukemia, 274

- Rotilio, G. See Mondovì, Strom, Agrò, Caiafa, De Sole, Bozzi, Rotilio, and Rossi Fanelli, 505
- Rudman, D., Vogler, W. R., Howard, C. H., and Gerron, G. G. Observations on the Plasma Amino Acids of Patients with Acute Leukemia, 1159
- Rush, E. A., McLaughlin, C. L., and Solomon, A. The Essentiality of Decyclization of Pyrrolidonecarboxylic Acid Prior to Utilization in Protein Biosynthesis, 1134
- Russell, D. H., and Levy, C. C. Polyamine Accumulation and Biosynthesis in a Mouse L1210 Leukemia, 248
- Russell, D. H., Levy, C. C., Schimpff, S. C., and Hawk, I. A. Urinary Polyamines in Cancer Patients, 1555
- Russell, L. T. See Irving, Janss, and Russell, 387
- Ryan, W. L. See Heidrick and Ryan, 1313 Rydell, R. E. See Malejka-Giganti, Gutmann, Rydell, and Yost, 778
- Saal, F., Pasqualini, C. D., and Rabasa, S. L. Study of the Gross Antigen in BALB Leukemias and Tumors of Different Origin, 23
- Sabine, M-C. See Burtin, von Kleist, and Sabine, 1038
- Saffiotti, U. See Harris, Sporn, Kaufman, Smith, Baker, and Saffiotti, 1977; Smith, Sporn, Berkowitz, Kakefuda, Callan, and Saffiotti, 199
- Salak, D. See Looney, Mayo, Janners, Mellon, Allen, Salak, and Morris, 821
- Sanders, B. G., Teplitz, R. L., and Wiley, K. L. Serum and Urinary Protein Alterations in C57BL/10 Lymphoma-bearing Mice, 1682
- Sartorelli, A. C. See Booth, Moore, and Sartorelli, 228; Moore, Booth, and Sartorelli, 235; Wolpert, Damle, Brown, Sznycer, Agrawal, and Sartorelli, 1620
- Sasaki, H. See Maruyama, Kataoka,
   Nagase, Nakada, Sato, and Sasaki, 179
   Sato, H. See Maruyama, Kataoka, Nagase,
   Nakada, Sato, and Sasaki, 179
- Sato, T., Friend, C., and de Harven, E. Ultrastructural Changes in Friend Erythroleukemia Cells Treated with Dimethyl Sulfoxide, 1402
- Sawitsky, A. See Jones, Holland, Morrison, Lee, Sinks, Cuttner, Rausen, Kung, Pluss, Haurani, Patterson, Blom, Burgert, Moon, Chevalier, Sawitsky, Albala, Forcier, Falkson, and Glidewell, 84
- Schapira, F., Hatzfeld, A., and Reuber, M. D. Fetal Pattern of Aldolase in Transplantable Hepatomas, 1224
- Schimpff, S. C. See Russell, Levy, Schimpff, and Hawk, 1555
- Schlom, J., Moloney, J. B., and Groupé, V. Evidence for the Rapid Decrease in Leukemogenic Potential of Rauscher Leukemia Virus in Cell Culture, 260

- Schloss, G. T. See Reilly and Schloss, 841 Schnaitman, C. A. See Chang, Schnaitman, and Morris, 108
- Schoental, R., and Bensted, J. P. M. Gastric Tumors and Lung Lesions in the Rat following the Intragastric or Intraperitoneal Administration of N-(β-Chloroethyl)-Nnitrosourethan. 573
- Schrek, R., and Dolowy, W. C. In Vitro Test for Sensitivity of Leukemic Cells to L-Asparaginase. 523
- Scott, D. F. See Reynolds, Scott, Potter, and Morris, 1580
- Sedgwick, J. A. See Baird, Sedgwick, and Boutwell, 1434
- Seeber, S., and Busch, H. Comparative Oligonucleotide Sequences of 28S Ribosomal RNA of Normal Liver and Novikoff Hepatoma Ascites Cells, 1895
- Segaloff, A., and Maxfield, W. S. The synergism between Radiation and Estrogen in the Production of Mammary Cancer in the Rat, 166
- Seidel, E. H. See Macek, Seidel, Lewis, Brunschwig, Wimberly, and Benyesh-Melnick 308
- Selawry, O. S. See Hansen, Selawry, Muggia, and Walker, 223
- Selkirk, J. K. See Huberman, Selkirk, and Heidelberger, 2061
- Selkirk, J. K., Elwood, J. C., and Morris, H. P. Study on the Proposed Role of Phospholipid in Tumor Cell Membrane. 27
- Sell, S. See Lieberman, Baney, Lee, Sell, and Farber, 1297; Lieberman, Sell, and Farber, 1307
- Shafritz, D. A. See Anderson and Shafritz,
- Shamberger, R. J., Hozumi, M., and Morris, H. P. Lysosomal and Nonlysosomal Enzyme Activities of Morris Hepatomas, 1632
- Sharma, O. K. See Kerr, Sharma, and Borek, 633
- Shearer, R. W., and Smuckler, E. Z. A Search for Gene Depression in RNA of Primary Rat Hepatomas, 2104
- Sheid, B., Wilson, S. M., and Morris, H. P. Transfer RNA Methylase Activity in Normal Rat Liver and Some Morris Hepatomas, 774
- Sherwin, R. P. See Richters, Sherwin, and Richters, 214
- Shigematsu, T., Dmochowski, L., and Williams, W. C. Studies on Mouse Mammary Tumor Virus and Mouse Leukemia Virus by Immunoelectron Microscopy, 2085
- Shimkin, M. B. See Hilf, Goldenberg, Michel, Gruenstein, Meranze, and Shimkin, 52
- Shimkin, M. B., Gruenstein, M., and Meranze, D. R. Test for Carcinogenic Activity of Benzoquinones in Long-Evans Rats, 957
- Shipley, W. U. Immune Cytolysis in Relation

- to the Growth Cycle of Chinese Hamster Cells, 925
- Shugart, L. R. See Stulberg and Shugart,
- Shuve, S. J., and Rauth, A. M. The Effects of Phleomycin on Mouse L-Cells, 1422
- Siciliano, M. J., Perlmutter, A., and Clark, E. Effect of Sex on the Development of Melanoma in Hybrid Fish of the Genus Xiphophorus, 725
- Siegler, R., Hagmann, I., and Kelman, A. D. Fixation in Hyperosmotic Solutions as a Possible Aid in Visualizing Virions in Tumor Tissue, 203
- Silber, R. See Rothman, Malathi, and Silber, 274
- Simmons, E. L., See Vesselinovitch, Simmons, Mihailovich, Rao, and Lombard, 2132
- Singer, S., and Litwack, G. Identity of Corticosteroid Binder I with the Macromolecule Binding 3-Methylocholanthrene in Liver Cytosol in Vivo, 1364
- Sinks, L. F. See Jones, Holland, Morrison, Lee, Sinks, Cuttner, Rausen, Kung, Pluss, Haurani, Patterson, Blom, Burgert, Moon, Chevalier, Sawitsky, Albala, Forcier, Falkson, and Glidewell, 84
- Sinnhuber, R. O. See Lee, Wales, and Sinnhuber, 960
- Sirsi, M. See Srinivasa Rao, and Sirsi, 1153 Sizaret, P. P., McIntire, K. R., and Princler, G. L. Quantitation of Human α-Feto-
- protein by Electroimmunodiffusion, 1903
  Sjögren, H. O., and Borum, K. Tumor-specific Immunity in the Course of Primary Polyoma and Rous Tumor Development in Intact and Immunosuppressed
- Skipper, H. E. Cancer Chemotherapy is Many Things: G. H. A. Clowes Memorial Lecture, 1173
- Sladek, N. E. Metabolism of Cyclophosphamide by Rat Hepatic Microsomes, 901
- Slater, E. E., Anderson, M. D., and Rosenkranz, H. S. Rapid Detection of Mutagens and Carcinogens, 970
- Slesers, A. See Hruban, Morris, Mochizuki, Meranze, and Slesers, 752; Mochizuki, Hruban, Morris, Slesers, and Vigil, 763
- Slifkin, M. See Merkow, Epstein, Slifkin, Farber, and Pardo, 174
- Smith, C. G. See Bhuyan, Neil, Smith, Olin, and Li, 1923
- Smith, E. C. See Dunaway and Smith, 1418Smith, H. G. See Vanwijck, Godrick, Smith,Goldweitz, and Wilson, 1559
- Smith, J. M. See Harris, Sporn, Kaufman, Smith, Baker, and Saffiotti, 1977
- Smith, J. M., Sporn, M. B., Berkowitz, D. M., Kakefuda, T., Callan, E., and Saffiotti, U. Isolation of Enzymatically Active Nuclei from Epithelial Cells of the Trachea, 199
- Smith, L. D., and Kizer, D. E. Kinetic, Im-

- munochemical, and Physical Studies on Purified Rat Liver Adenosine 5'-Phosphate Deaminase after Induction with 3'-Methyl-4-dimethylaminoazobenzene or Thioacetamide, 1341
- Smith, R. T. See Adler, Takiguchi, and Smith, 864
- Smithers, D. W. Summary of Informal Discussion on Biostatistical and Epidemiological Factors in Hodgkin's Disease, 1866; Summary of Papers Delivered at the Conference on Staging in Hodgkin's Disease (Ann Arbor), 1869. See also Carbone, Kaplan, Musshoff, Smithers, and Tubiana, 1862
- Smuckler, E. A. See Wu and Smuckler, 239Smuckler, E. Z. See Shearer and Smuckler, 2104
- Sobel, J. S., Albrecht, A. M., Riehm, H., and
   Biedler, J. L. Hybridization of Actinomycin
   D- and Amethopterin-resistant Chinese
   Hamster Cells in Vitro, 297
- Sodergren, J. E. See Rader, Hutchison, Sodergren, Vidal, and Philips, 964
- Soloff, B. L. See Burns, Soloff, Hanna, and Buxton, 159
- Solomon, A. See Rush, McLaughlin, and Solomon, 1134
- Song, C. W., and Levitt, S. H. Quantitative Study of Vascularity in Walker Carcinoma 256, 587
- Soriano, R. Z. See Love and Soriano, 1030 Spain, J. D. See Holland and Spain, 538 Sporn, M. B. See Edwards, Wogan, Sporn, and Pong, 1943; Harris, Sporn, Kaufman, Smith, Baker, and Saffiotti, 1977; Smith, Sporn, Berkowitz, Kakefuda, Callan, and Saffiotti, 199
- Squires, C. See Carbon and Squires, 663
  Srinivasa Rao, V., and Sirsi, M. Humoral
  Antibodies in the Host Directed against
  Tumor Cells after Suppression of Ascites
  Tumor by Heteroimmune Sera, 1153
- Staffeldt, E. See Peraino, Fry, and Staffeldt, 1506
- St-Arneault, G. See Bekesi, St-Arneault, and Holland, 2130
- Steinmuller, D. A Reinvestigation of Epidermal Transplantation during Chemical Carcinogenesis, 2080
- Stejskal, R. See Davidsohn, Ni, and Stejskal, 1244
- Stenback, W. A. See McCormick, Anderson, Stenback, and Trentin, 981
- Sternberg, S. S. See Margolis, Philips, and Sternberg, 2037
- Stock, N. D. See McDonough, Larsen, Brodey, Stock, and Hardy, 953
- Straus, M. J., Mantel, N., and Goldin, A. Effects of Priming Dose Schedules in Methotrexate Treatment of Mouse Leukemia L1210, 1429
- Strife, A. See Todo, Strife, Fried, and Clarkson, 1330
- Strom, R. See Mondovi, Strom, Agrò,

- Caiafa, De Sole, Bozzi, Rotilio, and Rossi Fanelli, 505
- Strum, S. B. See Rappaport, Strum, Hutchison, and Allen, 1794
- Stubbs, M. See Weber, Stubbs, and Morris, 2177
- Stulberg, M. P., and Shugart, L. R. Response of Modified Phenylalanine Transfer RNA to Recognition by Phenylalanyl Transfer RNA Synthetase, 671
- Stutzman, L. Combined Radiotherapy and Chemotherapy of Lymphomas and Other Cancers, 1845
- Sugimoto, T., and Terayama, H. Irreversible Change of the Pattern of Carcinogenic Aminoazo Dye-binding Proteins in Rat Liver during Continuous Feeding of 3'-Methyl-4-dimethylaminoazobenzene, 1478
- Sugino, Y. See Kozai and Sugino, 1376
- Sunderman, F. W., Jr. See Maenza, Pradhan, and Sunderman, 2067
- Swann, A. See Prager, Derr, Swann, and Cotropia, 1488
- Swanson, D. H. See Palmer, Swanson, and Coffin, 730
- Sweeney, M. J., Hoffman, D. H., and Poore, G. A. Possible in Situ Activation of Mycophenolic Acid by β-Glucuronidase, 477
- Swyers, W. A. See Moos, Maguire, Kitchlew. Swyers, Volk, Croft, Quigley, Fries, Oser, and Anderson, 937
- Sydnor, K. L. See Flesher and Sydnor, 1951Sznycer, E. See Wolpert, Damle, Brown,Sznycer, Agrawal, and Sartorelli, 1620
- Szuch, P. See Fisher, Szuch, and Fisher, 322
- Takeuchi, J. See Tani, Takeuchi, Ishijima, Higashi, Fujihara, Ametani, and Ando, 2120
- Takiguchi, T. See Adler, Takiguchi, and Smith, 864
- Tamura, G. See Kato, Ando, Tamura, and Arima, 501
- Tani, E., Ametani, T., Ishijima, Y., Higashi, N., and Fujihara, E. Intranuclear Paracrystalline Fibrillar Arrays in Human Glioma Cells. 1210
- Tani, E., Takeuchi, J., Ishijima, Y., Higashi, N., Fujihara, E., Ametani, T., and Ando, K. Elongated Nuclear Sheet and Intranuclear Myelin Figure of Human Medulloblastoma, 2120
- Taper, H. S., Fort, L., and Brucher, J-M. Histochemical Activity of Alkaline and Acid Nucleases in the Rat Liver Parenchyma during N-Nitrosomorpholine Carcinogenesis, 913
- Tator, C. H. The Uptake of Tritiated Methotrexate by an Experimental Glioma, 1600
- Taylor, D. O. N. See Oshiro, Riggs, Taylor, Lennette, and Huebner, 1100
- Taylor, M. W., Volkers, S. A. S., Choe, B. K., and Zeikus, J. G. Transfer RNA Modifications and Synthesis in Animal Cells, 688

- Tchou, H. P., Claffin, A. J., and Muench, K. H. Tryptophanyl Transfer RNA Synthetase from Lymphocytes of Human Chronic Lymphocytic Leukemia, 679
- Teebor, G. W., and Becker, F. F. Regression and Persistence of Hyperplastic Hepatic Nodules Induced by N-2-Fluorenylacetamide and Their Relationship to Hepatocarcinogenesis, 1
- Teillet, F., Boiron, M., and Bernard, J. A Reappraisal of Clinical and Biological Signs in Staging of Hodgkin's Disease, 1723
- Teplitz, R. L. See Sanders, Teplitz, and Wiley, 1682
- Terayama, H. See Sugimoto and Terayama, 1478
- Terenius, L., Lindell, A., and Persson, B. H. Binding of Estradiol-17β to Human Cancer Tissue of the Female Genital Tract, 1895
- Thomas, B. S. See Deckers, Edgerton, Thomas, and Pilch, 734
- Thomas, L. B. Summary of Informal Discussion on Histological Criteria for Diagnosis of the Extent of Hodgkin's Disease, 1799. See also Berard, Thomas, Axtell, Kruse, Newell, and Kagan, 1776; Rappaport, Berard, Butler, Dorfman, Lukes, and Thomas, 1864
- Thomlinson, R. H. See Denekamp and Thomlinson, 1279
- Thomson, M. See Redman, Garland, Thomson, Ng, and Richards, 265
- Ting, R. C. See Fujioka, Ting, and Gallo, 451
  Tobey, R. A., and Ley, K. D. Isoleucine-mediated Regulation of Genome Replication in Various Mammalian Cell Lines, 46
- Todo, A., Strife, A., Fried, J., and Clarkson, B. D. Proliferative Kinetics of Human Hematopoietic Cells during Different Growth Phases in Vitro, 1330
- Tokuzen, R. Comparison of Local Cellular Reaction to Tumor Grafts in Mice Treated with Some Plant Polysaccharides, 1590
- Tominaga, T. See Dao, King, and Tominaga,
- Tonković, L. See Boranić and Tonković, 1140
- Toporek, M. Effect of Albumin Fraction from Blood of Tumor-bearing Rats on Serum Protein Production by Isolated Perfused Normal Rat Livers, 1962
- Traggis, D. See Jaffe, Traggis, Das, Moloney, Hann, Kim, and Nair, 942
- Trainin, Z., and Klopfer, U. Immunofluorescent Studies of Lymph Nodes and Spleens of Leukotic Cattle for Cells Producing IgM and IgG, 1968
- Trentin, J. J. See McCormick, Anderson, Stenback, and Trentin, 981
- Troncale, F., Hertz, R., and Lipkin, M. Nucleic Acid Metabolism in Proliferating and Differentiating Colonic Cells of Man and in Neoplastic Lesions of the Colon, 463

- Trujillo, N. P. See DeVita, Bagley, Goodell, O'Kieffe, and Trujillo, 1746
- Tubiana, M. Summary of Informal Discussion on Staging Procedures in Hodgkin's Disease, 1751. See also Carbone, Kaplan, Musshoff, Smithers, and Tubiana, 1860
- Tubiana, M., Attié, E., Flamant, R. Gérard-Marchant, R., and Hayat, M. Prognostic Factors in 454 Cases of Hodgkin's Disease, 1801
- Tung, T-C. See Lin, Liu, Chen, and Tung, 921
  Turkington, R. W. Changes in Hybridizable
  Nuclear RNA during the Neoplastic Development of Mouse Mammary Cells, 427;
  The Regulation of Transfer RNA Methylation in Normal and Neoplastic Mammary
  Cells, 644
- Turkington, R. W., Males, J. L., and Cohen, S. Synthesis and Storage of Epithelial-Epidermal Growth Factor in Submaxillary Gland, 252
- Tyndall, R. L. See Clapp, Tyndall, and Otten,
- Uetani, T. See Miura, Kawashima, Nishiwaki, Kobayashi, Morita, Ohno, Kakizawa, Uetani, Hirano, and Yamada, 1451; Miura, Kawashima, Uetani, Hirano, Kakizawa, Ohno, Morita, Nishiwaki, and Yamada, 114
- Ultmann, J. E. See Redding, Anagnostopoulos, and Ultmann, 1741; Rosenberg, Boiron, DeVita, Johnson, Lee, Ultmann, and Viamonte. 1864
- Vaage, J. Concomitant Immunity and Specific Depression of Immunity by Residual or Reinjected Sygeneic Tumor Tissue, 1655
- Vaage, J., Chen, K., and Merrick, S. Effect of Immune Status on the Development of Artificially Induced Metastases in Different Anatomical Locations, 496
- Vaheri, A., and Hanafusa, H. Effect of Rifampicin and a Derivative on Cells Transformed by Rous Sarcoma Virus, 2032
- Vandeputte, M. See Datta and Vandeputte,
- Van Scott, E. J. See Bonder and Van Scott, 851
- Vanstone, C. L. See Goldenberg, Lyons, Lepp, and Vanstone, 1616
- Vanwijck, R. R., Godrick, E. A., Smith, H. G., Goldweitz, J., and Wilson, R. E. Stimulation or Suppression of Metastases with Graded Doses of Tumor Cells, 1559
- Veazey, R. A. See Irving, Peeler, Veazey, and Wiseman, 1468; Irving and Veazey, 19
- Vepřek, L. See Langlois, Vepřek, Beard, Fritz, and Beard, 1010
- Vernie, L. N., Bont, W. S., and Emmelot, P. Ribosome Monomers in Rat Liver following Administration of Dimethylnitrosamine. 2189

- Vesselinovitch, S. D., Mihailovich, N., Rao, K. V. N., and Itze, L. Perinatal Carcinogenesis by Urethan, 2143
- Vesselinovitch, S. D., Simmons, E. L., Mihailovich, N., Rao, K. V. N., and Lombard, L. S. The Effect of Age, Fractionation, and Dose on Radiation Carcinogenesis in Various Tissues of Mice, 2133
- Viale, G. L. Transfer RNA and Transfer RNA Methylase in Human Brain Tumors, 605
- Viamonte, M., Jr. Current Status of Lymphography, 1731. See also Rosenberg, Boiron, DeVita, Johnson, Lee, Ultmann, and Viamonte. 1864
- Vidal, P. See Rader, Hutchison, Sodergren, Vidal, and Philips, 964
- Vielkind, J., Vielkind, U., and Anders, F. Melanotic and Amelanotic Melanomas in Xiphophorin Fish, 868
- Vielkind, U. See Vielkind, Vielkind, and Anders, 868
- Vig. B. K. Chromosome Aberrations Induced in Human Leukocytes by the Antileukemic Antibiotic Adriamycin, 32
- Vigil, E. L. See Mochizuki, Hruban, Morris, Slesers, and Vigil, 763
- Viola, P. L., Bigotti, A., and Caputo, A. Oncogenic Response of Rat Skin, Lungs, and Bones to Vinyl Chloride, 516
- Vogler, W. R. See Groth, D'Angelo, Vogler, Mingioli, and Betz, 332; Rudman, Vogler, Howard, and Gerron, 1159
- Volk, P. Z. See Moos, Maguire, Kitchlew, Swyers, Volk, Croft, Quigley, Fries, Oser, and Anderson, 937
- Volkers, S. A. S. See Taylor, Volkers, Choe, and Zeikus, 688
- von Kleist, S. See Burtin, von Kleist, and Sabine, 1038
- Waalkes, T. P., Adamson, R. H., O'Gara, R. W., and Gallo, R. C. Transfer RNA Methylase Activity in Normal Monkey Liver and in Carcinogen-induced Hepatoma, 1069
- Wainfan, E. Influence of a Latent Virus on Transfer RNA-methylating Enzymes, 710
- Wainwright, S. D. Stimulation of Hemoglobin Synthesis in Developing Chick Blastodisc Blood Islands by a Minor Alaninespecific Transfer RNA, 694
- Walborg, E. F., Jr. See Wray and Walborg, 2072
- Wales, J. H. See Lee, Wales, and Sinnhuber, 960
- Waligunda, J. See Ohnuma, Waligunda, and Holland. 1640
- Walker, E. M., Jr. See Gale, Howle, and Walker, 950
- Walker, I. G., and Reid, B. D. Some Properties of Substrains of L-Cells with a Decreased Sensitivity to Bis(2-chloroethyl)-sulfide. 510

- Walker, M. D. See Hansen, Selawry, Muggia, and Walker, 223
- Wallace, C. See Pierce and Wallace, 127
- Wang, T. Y. See Kostraba and Wang, 1663
  Watabe, H. Early Appearance of Embryonic α-Globulin in Rat Serum during Carcinogenesis with 4-Dimethylaminoazobenzene, 1192
- Waterhouse, C., and Kemperman, J. H. Carbohydrate Metabolism in Subjects with Cancer, 1273
- Watters, C., and Gullino, P. M. Translocation of DNA from the Vascular into the Nuclear Compartment of Solid Mammary Tumors, 1231
- Webb, T. E. See Rizzo, Heilpern, and Webb, 876
- Weber, G. See Allen, Munshower, Morris, and Weber, 557: Ferdinandus, Morris, and Weber, 550: Queener, Morris, and Weber, 1004
- Weber, G., Stubbs, M., and Morris, H. P. Metabolism of Hepatomas of Different Growth Rates in Situ and during Ischemia, 2177
- Webster, D. A. See McCann, Lo, and Webster, 1573
- Webster, R. G. See Borella and Webster, 420 Weinhouse, S. Isozymes in Cancer, 1166
- Weinstein, I. B., Grunberger, D., Fujimura, S., and Fink, L. M. Chemical Carcinogens and RNA, 651
- Weisburger, E. K. See Yamamoto, Weisburger, and Weisburger, 483
- Weisburger, J. H. See Yamamoto, Weisburger, and Weisburger, 483
- Weiser, R. S. See Chambers and Weiser,
- Weiss, D. W. See Wexler, Kripke, and Weiss, 122
- Weiss, L., and Hakala, M. T. The Anionic Nature of Sarcoma 180 Cell Surfaces, and Sensitivity to 4,4'-Diacetyldiphenylureabis(guanylhydrazone), 1369
- Welsch, C. W. See Cassell, Meites, and Welsch, 1051
- Wexler, M. R., Kripke, M., and Weiss, D. W. Prolonged Survival of Male-to-Female Skin Isografts and of Allografts from Normal Mice following Treatment of Recipient or Graft with Sera from Tumor-bearing Mice. 122
- White, H. J. See Burns and White, 826
- Whitecar, J. P., Jr. See LePage and Whitecar, 1627
- Whitescarver, J. See Recher, Parry, Briggs, and Whitescarver, 1915
- Wiley, K. L. See Sanders, Teplitz, and Wiley, 1682
- Wilkinson, R. See Pillinger and Wilkinson, 630
- Williams, W. C. See Shigematsu, Dmochowski, and Williams, 2085
- Wilson, K. J. See Neumann, Wilson, Hauck-Granoth, and Haran-Ghera, 1695

- Wilson, K. J., Neumann, H., and Haran-Ghera, N. Chronological Appearance of Alkaline Phosphatase Activity in Virusinduced Thymic Lymphomas of C57BL/6 Mice, 1702
- Wilson, R. E. See Vanwijck, Godrick, Smith, Goldweitz, and Wilson, 1559
- Wilson, S. M. See Sheid, Wilson, and Morris, 774
- Wimberly, I. See Macek, Seidel, Lewis, Brunschwig, Wimberly, and Benyesh-Melnick, 308
- Wiseman, R., Jr. See Irving, Peeler, Veazey, and Wiseman, 1468; Irving and Wiseman, 1645
- Witschi, H., Epstein, S. M., and Farber, E. Influence of Liver Regeneration on the Loss of Fluorenylacetamide Derivative Bound to Liver DNA, 270
- Wogan, G. N. See Edwards, Wogan, Sporn, and Pong, 1943
- Wogan, G. N., Edwards, G. S., and Newberne, P. M. Structure-Activity Relationships in Toxicity and Carcinogenicity of Aflatoxins and Analogs, 1934
- Wolberg, W. H. Inhibition of Migration of Human Autogenous and Allogeneic Leukocytes by Extracts of Patients' Cancers, 798
- Wolberg, W. H., and Ansfield, F. J. The Relation of Thymidine Labeling Index in Human Tumors in Vitro to the Effectiveness of 5-Fluorouracil Chemotherapy, 448

- Wolff, G. L. Genotype-dependent Modification of Sarcoma 37 Growth in Castrated Mice. 1570
- Wolpert, M. K., Damle, S. P., Brown, J. E., Sznycer, E., Agrawal, K. C., and Sartorelli, A. C. The Role of Phosphohydrolases and the Mechanism of Resistance of Neoplastic Cells to 6-Thiopurines, 1620
- Wray, V. P., and Walborg, E. F., Jr. Isolation of Tumor Cell Surface Binding Sites for Concanavalin A and Wheat Germ Agglutinin. 2072
- Wu, C., Al-Saadi, A. A., Ling, R. C., and McKinnie, K. L. Some Biochemical and Cytogenetic Properties of Rat Thyroid Tumors, 577
- Wu, C., Bauer, J. M., and Morris, H. P. Responsiveness of Two Urea Cycle Enzymes in Morris Hepatomas to Metabolic Modulations, 12
- Wu, S-Y., and Smuckler, E. S. The Acute Effect of Aminoazobenzene and Some of Its Derivatives on RNA Polymerase Activity in Isolated Rat Liver Nuclei, 239
- Xerri, L. See Di Marco, Franceschi, Xerri, and Prodi. 1446
- Yamada, K. See Miura, Kawashima, Nishiwaki, Kobayashi, Morita, Ohno, Kakizawa, Uetani, Hirano, and Yamada, 1451; Miura, Kawashima, Uetani, Hirano, Kakizawa, Ohno, Morita, Nishiwaki, and

- Yamada, 114
- Yamamoto, R. S., Weisburger, J. H., and Weisburger, E. K. Controlling Factors in Urethan Carcinogenesis in Mice: Effect of Enzyme Inducers and Metabolic Inhibitors, 483
- Yang, W-K. Isoaccepting Transfer RNA's in Mammalian Differentiated Cells and Tumor Tissues, 639
- Yanagihara, E. See Hokama and Yanagihara, 2018
- Yarbro, J. W. See Bornstein, Hungerford, Haller, Engstrom, and Yarbro, 2004
- Yost, Y. See Malejka-Giganti, Gutmann, Rydell, and Yost, 778
- Yunis, A. A., and Gentry, M. A. Purification and Properties of Alkaline Phosphatase from Rat Chloroma, 39
- Zamecnik, P. C. Summary of a Symposium on Transfer RNA and Transfer RNA Modification in Differentiation and Neoplasia, 716
- Zawidzka, Z. Z., and Grice, H. C. Alterations in Morphology and Growth Pattern in a Transmissible Leukemia of Rats, 1990
- Zeikus, J. G. See Taylor, Volkers, Choe, and Zeikus, 688
- Zieve, F. J., and Gutmann, H. R. Reactivities of the Carcinogens, N-Hydroxy-2-fluorenylacetamide and N-Hydroxy-3-fluorenylacetamide, with Tissue Nucleophiles, 471

## Subject Index

Acetate utilization, in alveolar nodules and mammary adenocarcinomas, 527

#### 2-Acetylaminofluorene

hepatocarcinogenesis due to, phenobarbital reduction and enhancement of, 1506

liver nucleic acid binding of, in male ver-

3-methylcholanthrene and diet influence on, 1468

N-Acetylation, of arginine-rich hepatoma histones, 468

Acridine orange, binding to DNA, in leukemic bone marrow cells, 1128

#### Actinomycin D

hamster cells resistant to, hybridization of, 297

modification of vitamin A acid effects on skin keratoacanthoma by, 1080

nuclear and nucleolar changes induced by, 140

nucleoli of mammalian cells affected by, 1915

urethan carcinogenesis affected by, 483

#### Adenocarcinoma

mammary. See Mammary adenocarcinoma.

renal, induced by dimethylnitrosamine, ultrastructural aspects of, 366

Adenosine 3',5'-cyclic monophosphate, contact inhibition and, 1313

Adenosine 5'-phosphate deaminase, liver, studies on, after induction with hepatocarcinogens, 1341

Adenovirus, type 12, tumors induced by, immunity against, antibodies blocking, 997

Adenylate kinase, in cancer, 1531

Adenyl cyclase, regulation of, in hepatomas, 557

Adrenal carcinoma, hormone-dependent, hormonal effects on thymidine kinase in, 1348

Adrenalectomy, high-protein diet and, tumor-altered albumin metabolism affected by, 257

#### Adrenocortical carcinoma

estrogen-dependent, estrogen removal from, morphological effects of, 1042 nucleic acid metabolism in, 265

#### Adriamycin

human leukocyte chromosome aberrations due to, 32

Moloney sarcoma affected by, 1971

#### Aflatoxin(s)

carcinogenicity of, structure-activity relationships in, 1936

DNA binding affected by, 1943

hepatoma induced by, growth of, methyl malvalate and methyl sterculate promotion of, 960

nuclear effects of, 1943

#### Age factors

in chronic remittent Friend disease, 974

radiation carcinogenesis affected by, 2133

#### Albumin

metabolism of, tumor-altered effects of high-protein diet and adrenalectomy on, 257

serum protein production affected by, 1962

#### Aldolase

fetal pattern of, in transplantable hepatomas, 1224

#### in cancer, 1526

Alkaline phosphatase changes in, due to virus-induced thymic lymphomas, 1702

from rat chloroma, purification and properties of, 32

in leukemic mice, biochemical study of, 1695

#### Alkylating agents

cross-linking of DNA by, 1573 lymphocytes treated with, DNA repair in, 1297, 1307

#### Alkylation, of tRNA, 617

Allogeneic cells, sensitized, treatment of Moloney virus-induced leukemia with, 1383

Alveolar nodules, hyperplastic, glucose and acetate utilization in, 527

American Association for Cancer Research, Inc., annual meeting, 1168, 1317, 1520

#### Amethopterin

effect on thymidine triphosphate, in HeLa cells, 1930

hamster cells resistant to, hybridization of, 297

Amines, sodium nitrite and, hepatic necrosis and toxicity due to, 1201

#### Amino acids

human leukemic cell requirements of, 1640 plasma, in acute leukemia, 1159

transport of, in hepatomas and liver, 1580

Aminoazobenzene, RNA polymerase affected by, in liver nuclei, 239

Aminoazo dye, hepatic protein binding of, changes in, during 3'-methyl-4dimethylaminoazobenzene feeding, 1478

p-Aminobenzoic acid, diazotized, lymphoma cells modified by, immunization with, 1488

Animal cells, tRNA modification and synthesis in, 688

#### Announcement(s)

of American Association for Cancer Research, Inc., annual meeting, 1168, 1317, 1520

of American Society of Cytology, annual meeting, 1521

of cancer immunology fellowships, 482

of carcinogenesis workshops, 1171

of clinical oncology traineeships, 1521

of clinical research fellowships in oncology and cancer chemotherapy, 1871, 2197 of Conference on Biology of Cancer Cells, 724

of Conference on Planning for Cancer Centers, 1872

of Eleanor Roosevelt International Cancer Fellowships, 1172

of Eleventh International Cancer Congress, 2196

of Fifth International Symposium on Comparative Leukemia Research, 72

of First International Congress of Immunology, 206, 381

of Gordon Research Conference on Cancer, 919

of Gynecologic Oncology Group, 2196

of Immunity and Cancer symposium, 1318

of International Atomic Energy Agency symposium, 1872

of Journal of the National Cancer Institute brief communications, 2196

of Karnofsky Fellowship, 1059

of Latin American Cancer Conference,

of mammalian genetics course, 919

of Mike Hogg Intensive Review in Obstetrics and Gynecology (conference), 1318

of National Cancer Institute chemical carcinogenesis contract program, 1058, 1169

of Ninth Annual Symposium on Biomathematics and Computer Science in the Life Sciences, 206

of Pan-Pacific Surgical Association Congress, 1172

of postgraduate course in cell pathology, 206

of Second Conference and Workshop on Embryonic and Fetal Antigen in Cancer, 1872, 2197

of Seventh International Congress of Chemotherapy, 919

of Sidney Farber Medical Research Award for 1971, 2197

of Sixth Annual Symposium for Referring Physicians, 1871

of VI International Congress on Photobiology, 1172

of 16th Annual Clinical Conference, 1318

of Society of Toxicology annual meeting. 1871

of Symposium on RNA Viruses and Host Genome in Oncogenesis, 72

of Third Conference on Experimental Medicine and Surgery in Primates, 724

of traineeships in varied fields, 1871, 2197 of 24th Annual Symposium on Fundamental Cancer Research, 72

Antibiotics, polyenic, effect on Ehrlich ascites and Novikoff hepatoma cells, 505

#### Antibody(ies)

blocking immunity against adenovirus type 12-induced tumors, 997 cytoxic, 997

ferritin-labeled, feline C-type particles studied with, 1100

humoral, in host, directed against tumor cells after ascites tumor suppression by heteroimmune sera, 1153

production of, effects of L-asparaginase on, in allogeneic mice, 114

T, of chicken embryo lethal orphan virus,

Antigen(s)

carcinoplacental, Regan isoenzyme as, 1054 colonic membrane, loss of, in colonic cancer, 1038

fetal  $\alpha_1$ , in hepatomas and teratomas, 930 Gross, in BALB leukemias and tumors, 23 mouse mammary tumor virus virion, strain specificity in, 1473

tumor, in thymic lymphomas, serological studies of, 1285

tumor-specific, in virus-induced polyoma, cellular and humoral immunity to, 882

Antihormone treatment, regression of prolactin-dependent mammary carcinoma from, 817

Antileukemia serum, in L1210 leukemia, 1606

Antimitotic drugs, effects of, screening of, use of vaginal and rectal epithelium in, 851

Antiserum, folate, folic acid binding by, 1095
1-β-D-Arabinofuranosylcytosine, enzymatic phosphorylation of, 1376

Arabinosylcytosine, effects on melanoma and ascites tumor, 66

Arginase, in Morris hepatomas, hormonal effects on, 12

Argininosuccinate synthetase, in Morris hepatomas, hormonal effects on, 12

Aromatic hydrocarbons

metabolism of, 2161

polycyclic, binding to proteins and nucleic acids, of transformable cells, 2168

Ascites tumor (cells)

Ehrlich, cell proliferation of, effect of arabinosylcytosine on, 66

effect of fatty acid esters on, 501

effect of polyenic antibiotics on, 505 glyceraldehyde 3-phosphate dehydro-

glyceraldehyde 3-phosphate dehydrogenase-inactivating factor from, 487

growth inhibition in, due to isocyanates, 937

interconversion of purine ribonucleotides in, 985

identification of three-line electron spin resonance signal in, 179

L1210, proliferation, migration and death of, 402

suppression of, by heteroimmune sera, humoral antibodies in host directed against, 1153

transplantable, cross-reactivity with spontaneous mammary tumors, 1682

tRNA methylase capacity in, 561

L-Asparaginase

effect on antibody production and tumor growth, in allogeneic mice, 114

effect on mitotic activity during N-2-fluorenylacetamide hepatocarcinogenesis, 169

in treatment of childhood neoplastic disease, 942

sensitivity of leukemic cells to, test for, 523

Aspartate aminotransferase, in cancer, 1530 Avian leukosis virus, strain MC29, isolation of non-focus-forming agent from, 1010

6-Azauridine, RNA inhibition by, DNA in mastocytoma cells after, 1188

Azo dye carcinogenesis, bile acid involvement in, 538

Azoproteins, antibodies against, localization of, from liver, 2110

Azotomycin, effect on lymphocyte blastogenesis, 834

Bacillus Calmette Guérin (BCG), in leukemia L1210, 1606

Bacteria, DNA of, breakage of, by nitrofuran derivatives, 2184

Benzo(a)pyrene, effects on tracheobronchial epithelium, 1977

Benzoquinones, carcinogenic activity of, test for, 957

3,4-Benzpyrene, nickel sulfide and, sarcoma induction by, 2067

Benzpyrene hydroxylase activity, effect of ozone on, 730

Bile acids, effect of azo dye carcinogenesis on, 538

Biochemical study(ies)

of alkaline phosphatases, in leukemic mice, 1695

of diethylstilbestrol-induced kidney tumors, 1251

Biology of Cancer Cells, conference on, 724 Biomathematics, in the Life Sciences, Ninth Symposium on, 206

Biostatistical study, of Hodgkin's disease, 1866

1,3-Bis(2-chlorethyl)-1-nitrosourea

effects

metabolic, on purine biosynthesis, 332 on normal mouse bone marrow, 185

on survival and cell progression of Chinese hamster cells, 191

Bis(2-chlorethyl)-sulfide, decreased sensitivity to, by substrains of L-cells, 510

Bite(s), dog, childhood cancer and, 383 Bladder, transitional cell hyperplasia in, after

DL-tryptophan feeding, 1690.

Blastogenesis, lymphocyte, effect of azotomy-

cin on, 834 Bleomycin

effects

cytogenic, 2004

on Chinese hamster cells, 1218

on nuclear DNA, in VX-2 carcinoma,

Bone(s), response to vinyl chloride, 516

Bone marrow

effects of chemotherapeutic agents on, 185 involvement in Hodgkin's disease, 1733, 1755, 1768

Bone marrow cells

leukemic, binding of acridine orange to DNA in, 1128

responses to radiation by, in relation to cell cycle, 1613

Books Received, 722, 1519

Brain, tRNA from, analysis of, tritium derivative method in, 658

Brain tumors.

chemotherapy of, 1600

tRNA and tRNA methylase in, 605

tRNA from, analysis of, tritium derivative method in, 658

Breast, See also Mammary.

Breast cancer

in São Paulo, Brazil, 77 parity and, 77

Breast tumors, estradiol uptake by, in vivo versus in vitro, 1268

Brief Communication(s), 199, 479, 1054, 1313

Calmette-Guérin bacillus (BCG), effect on mammary tumor formation and cellular immunity, in dimethylbenz(a)anthracene-treated rats, 1061

Camptothecin, inhibition of nucleic acids in leukemia L1210 cells by, 1883

Cancer

carbohydrate metabolism with, 1273 colonic, loss of colonic membrane antigen in, 1038

isozymes in, 1166, 1523

nucleic acid methylase induction of, 599

patients with, plasma from, erythropoietic effect of, 1355

Cancer immunology, fellowships in, announcement of, 482

fundamental, 24th Annual Symposium on, announcement of, 72

Cancer tissue, from human female genital tract, estradiol-17β binding by, 1895

Carbamyl phosphate synthetase, in cancer, 1531

Carbohydrate metabolism, in subjects with cancer, 1273

Carcinogen(s)

chemical, RNA and, 651

hydrocarbon, binding to proteins and nucleic acids of transformable cells, 2168

proximate, lymphocytes treated with, DNA repair in, 1297, 1307

rapid detection of, 970

Carcinog anesis

aflatoxin B<sub>1</sub>, effect of partial hepatectomy on, 491

azo dye, bile acid involvement in, 538 chemical. See Chemical carcinogenesis. cycasin, 283

4-dimethylaminoazobenzene, embryonic α-globulin in rat serum during, 1192

lack of N-hydroxy-2-acetylaminofluorene sulfotransferase and, in rat mammary and Zymbal glands, 387

N-nitrosomorpholine, liver nuclease histochemical activity during, 913

perinatal, by urethan, 2143

radiation. See Radiation.

urethan, effect of enzyme inducers and metabolic inhibitors on, 483

workshops on, announcement of, 1171

#### Carcinogenicity

of aflatoxins, structure-activity relationships in, 1936

of benzoquinone, test for, 957

of derivatives of 7,12-dimethylbenz(a)anthracene, 1951

of glucuronides of N-hydroxy-2-acetylaminofluorene and N-2-fluorenylhydroxylamine, 1645

of phorbol and phorbol esters, in mouse skin, 1074

of polycyclic hydrocarbons, hamster embyro cells transformed by morphological, oncogenic, and karyological characteristics of, 1118

of 12-O-tetradecanoyl-phorbol-13-acetate, in mouse skin, 1074

Carcinogenicity testing, of N-hydroxy-2naphthylamine and N-hydroxy-1naphthylamine, 1461

Carcinogen-protein conjugate, antigenic preimmunization with, cancer inhibition with, 1550

Carcinoma. See also gland affected; for example, Adrenal carcinoma.

hepatocellular, α-fetoprotein and, 1899 mammary. See Mammary carcinoma. pancreatic, tissue antigens A, B, and H in, 1244

VX-2, nuclear DNA in, bleomycin effects on, 992

Walker 256, vascularity in, 587

#### Carcinosarcoma,

Walker 256 chromatin of, transcription of, 1663

Cartesian diver studies, on respiration and glycolysis of sarcoma lines, 1564

#### Cat(s)

mammary carcinomas in, electron microscopy of, 1261

transmissible viral fibrosarcoma in, 953

#### Catalase

activity of, nucleotide inhibition of, 2018 mouse liver, depression of, induced by biological substances, 2018

Cattle, leukotic, lymph nodes and spleens of, immunofluorescent studies of, 1968

#### **CCRF-CEM** cells

thymidylate synthetase activity in, 1181 methotrexate and cytosine arabinoside modulation of, 457

Cell cultures, human and subhuman, Herpes

saimiri in, morphological studies in, 1019

Cell lines, mammalian, genome replication in, isoleucine regulation of, 46

Cell membranes, tumor, phospholipid in,

Cell pathology, postgraduate course in, announcement of, 206

Cell proliferation, kinetics of, in tumors after X-irradiation, 1279

Certificates of Award (of the American Association for Cancer Research) for 1971, 1515

#### Chemical carcinogenesis

epidermal transplantation during, 2080 guinea pig susceptibility to, 917

Chemical carcinogenesis contract program, announcement of, 1058, 1169

Chemotherapy, 1173

combination, long-term, in children with leukemia, immunosuppressive effects of, 420

5-fluorouracil, effectiveness of, thymidine labeling index and, 448

in Hodgkin's disease, staging and, 1838 of brain tumors, 1600

radiotherapy and, in lymphomas and other malignant neoplasms, 1845

Seventh International Congress of, announcement of, 919

#### Chick(en

embryos of, cross-linking of DNA in, by alkylating agents, 1573

hemoglobin synthesis in, alanine-specific tRNA stimulation of, 694

Chicken embryo lethal orphan virus, T antibodies of, 981

#### Child(ren)

cancer in, dog bite and, 383

leukemia in, daunorubicin in, 84

long-term combination chemotherapy in, immunosuppressive effects of, 420 neoplastic disease in, L-asparaginase in, 942

neuroblastoma in, prognosis for, 2098

Chlordane, effect on urethan carcinogenesis, 483

1-(2-Chloroethyl)-3-cyclohexyl-1-nitrosourea, clinical studies of, 223

N-( $\beta$ -Chloroethyl)-N-nitrosourethan, gastric and lung lesions from, 573

Chloroma, alkaline phosphatase from, purification and properties of, 32

Chromatin, Walker 256 carcinosarcoma transcription of, 1663

Chromosomes, leukocyte, aberrations in, induced by adriamycin, 32

Clowes Memorial Lecture: Cancer Chemotherapy Is Many Things, 1173

#### Colon

cancer of, loss of colonic membrane antigen in, 1038

neoplastic lesions of, nucleic acid metabolism in 463

Computer Science, in the Life Sciences,

Ninth Annual Symposium on, announcement of, 206

Concanavalin A, isolation of tumor cell surface binding sites for, 2072

Contact inhibition, adenosine 3',5'-cyclic monophosphate, cyclic nucleotide phosphodiesterase and, 1313

Correspondence, 1513, 1514

Corticosteroid Binder I, identity of, with macromolecules binding 3-methylcholanthrene in liver cytosol, 1364

C-type particles, ferritin-labeled antibody studies of, 1100

5-Cyanouracil, inhibition of pyrimidine catabolism by, 909

Cycasin, carcinogenic effects of, 283

Cyclic nucleotide phosphodiesterase, contact inhibition and, 1313

Cycloheximide, effect on urethan carcinogenesis, 483

#### Cyclophosphamide

effects on normal bone marrow, 185
metabolism of, by liver microsomes, 901
Moloney virus-induced leukemia treated
with, 1383

Cytogenetic studies, of lymphoblastoid cell lines, 308

Cytolysis, immune, growth cycle of hamster cells and, 925

Cytomegalovirus, from paraganglioma, ultrastructural and biological properties of. 542

Cytophagocytosis, by immune macrophages, 2059

Cytosine arabinoside, modulation of thymidylate synthetase activity by, in CCRF-CEM cells, 457

Cytosol, liver, macromolecule binding 3methylcholanthrene in, 1364

#### Cytotoxicity

of sesquiterpene lactones, 1649
of tubercidin and methyl ester of tubercidin, 1923

#### Daunomycin

effects on Moloney sarcoma, 1971 resistance to hamster cells in, 409

Daunorubicin, in childhood lymphoblastic leukemia, 84

Deer, with cutaneous fibromatosis, pulmonary fibroblastomas in, 1373

N-Demethylrifampicin, effect on cells transformed by Rous sarcoma virus, 2032

Deoxyribonucleic acid. See DNA.

Deoxyribonucleotide synthesis, inhibition of, by pyridine carboxaldehyde thiosemicarbazones, 235

β-2'-Deoxythioguanosine, effects on survival and progression in mammalian cells, 583

Diabetes, alloxan, effect on DNA synthesis and DNA polymerase activity in culture of mammary carcinoma, 59 4,4' - Diacetyldiphenylure: -bis(guanylhydrazone), sensitivity to, anionic nature of Sarcoma 180 cell surfaces and, 1369

Diagnosis, urinary polyamines in 1555

 cis - Dichloro(dipyridine)platinum(11), antitumor and antimitogenic properties of, 950

Diemictylus viridescens, spontaneous mesenchymal cell neoplasm in, 826

Diet

high-protein, adrenalectomy and, effect on tumor-altered albumin metabolism, 257

influence on binding of 2-acetylaminofluorene to liver nucleic acids, 1468

Diethylaminoethyl diphenyl valerate, effect on urethan carcinogenesis, 483

Diethylnitrosamine, given to BALB/c and RF mice, tumor types and organ susceptibility from, 196

Diethylstilbestrol, kidney tumors induced by, biochemical studies of, 1251

Dihydrouracil dehydrogenase, activity in differentiating and regenerating liver, and in hepatomas, 1004

4-Dimethylaminoazobenzene, carcinogenesis due to, embryonic α-globulin in rat serum during, 1192

N, N-Dimethyl-4-aminoazobenzene, RNA polymerase affected by, in liver nuclei,

7,12 - Dimethylbenz(a)anthracene

derivatives of, carcinogenicity of, 1951

exposure to, homograft rejection and graftversus-host reactivity after, 1446

mammary tumors induced by, effects of ergocornine and ergocryptine on, 1051

postovariectomy regression of, 52 regression after oophorectomy, biochemical changes preceding, 1195

9,10-Dimethyl-1,2-benzanthracene, uptake and clearance of, by mammary parenchymal cells, effect of endocrine gland ablation on, 2026

Dimethylnitrosamine

renal neoplasia due to, morphogenesis of,

ultrastructural study of, 337, 348, 366 ribosome monomers in liver due to, 2189 tumor types from and organ susceptibility to, 196

Dimethyl sulfoxide, Friend erythroleukemia cells treated with ultrastructural changes in, 1402

5-(Dimethyltriazeno)imidazole-4-carboxamide, transport and accumulation by

Diploid cells, human, study of glucose metabolic enzymes in, 1418

DNA. See also Nucleic acids.

L1210cells, 135

bacterial, breakage of, by nitrofuran derivatives, 2184

binding of, aflatoxin effects on, 1943

biosynthesis of, in experimental tumor cells, effect of ricin on, 921

cross-linking of, by alkylating agents, 1573

in mastocytoma cells, after RNA inhibition by 6-azauridine, 1188

liver, N-hydroxy-2-fluorenylacetamide bound to, influence of liver regeneration on, 270

4-nitroquinoline interaction with, 413

nuclear, in VX-2 carcinoma, bleomycin effects on, 992

repair of, in lymphocytes treated with carcinogens and alkylating agents, 1297, 1307

translocation of, in mammary tumors, 1231

DNA methylase, soluble, preparation of, from regenerating rat liver, 433

**DNA** polymerase

activity of, in cultured mammary carcinoma, effect of insulin on, 59

in cancer, 1524

**DNA synthesis** 

in cultured mammary carcinoma, effect of insulin on, 59

in nuclei of liver and hepatomas, effect of sucrose on, 1389

in regenerating liver, of hydrocortisonetreated rats, 876

methotrexate inhibition of, in small intestine, 2037

mitochondrial, stimulation by cytoplasmic factors, 2054

Dog(s)

mammary carcinomas in, electron microscopy of, 1261

methasquin excretion in, 964

transitional cell hyperplasia of bladder in, due to DL-tryptophan, 1690

3-tritylthio-L-alanine pharmacokinetics in, 1908

Dog bite, childhood cancer and, 383

Dopamine, effect on neuroblastoma cells, 1457

Ducklings, aflatoxin carcinogenicity in, 1936

Eleanor Roosevelt International Cancer Fellowships, announcement of, 1172

Electroimmunodiffusion, quantitation of  $\alpha$ -fetoprotein by, 1899

Electron microscope studies

of acridine orange binding to DNA, in leukemic bone marrow cells, 1128

of spontaneous mammary carcinomas,

Electron spin resonance signal, three-line, identification of, in ascites tumors, 179

**Embryonic cells** 

proteins and nucleic acids from, binding of hydrocarbon carcinogens to, 2168

transformed by carcinogenic polycyclic hydrocarbons, morphological, oncogenic, and karylogical characteristics of, 1118 **Embryonic tissues** 

tRNA methylation in, 621 tRNA's of, 621, 637

Endocrine organs, ablation of, effect on uptake and clearance of 9,10-dimethyl-1,2-benzanthracene by mammary parenchymal cells, 2026

Energy expenditure, partition of, between host and tumor, 98

Enzyme(s)

in glucose metabolism, in diploid and SV40-transformed diploid cells, 1418

in Morris hepatomas, 1632

lysosomal, in mammary gland carcinomas, effect of X-irradiation on, 392

tRNA-methylating, influence of latent virus on, 710

**Enzyme inducers** 

effect on urethan carcinogenesis, 483 polycyclic, photodynamic activity and, 1087

Enzyme patterns

in hepatomas of different growth rates,

in transplantable Reuber hepatomas, 808

Epidemiology, of Hodgkin's disease, 1854, 1858, 1866

Epidermal cells, aromatic hydrocarbon toxicity toward, 1206

**Epidermis** 

nucleic acids and proteins of, incorporation of tritiated precursors into, effect of phorbol and phorbol diesters on, 1434

proliferating, hydroxyurea cytotoxicity in, 277

transplantation of, during chemical carcinogenesis, 2080

Epithelial cells, tracheal, isolation of enzymatically active nuclei from, 199

Epithelial-epidermal growth factor, synthesis and storage of, in submaxillary gland, 252

**Epithelium** 

renal, dimethylnitrosamine-induced neoplasms in, morphogenesis of, 1496

tracheobronchial, effects of benzo(a)pyrene on, 1977

vaginal and rectal, in screening antimitotic effects of drugs, 851

Ergocornine, effects on mammary tumors, 1051

Ergocryptine, effects on mammary tumors, 1051

Errata, 207, 482, 919, 1059, 1318

Erythrocyte(s)

as virus car. er, in leukemia, 841 localization of mammary tumor virus in, 479

Erythroleukemia cells, Friend, treated with dimethyl sulfoxide, ultrastructural changes in, 1402

Erythropoietic effect, of plasma from cancer patients, 1355

Escherichia coli genetically altered tRNA in, 663 tRNA from, function of 5-methyluridine in,

#### Estradiol

breast tumor uptake of, 1268 macromolecular binding of, in hormone-

dependent versus hormone-independent mammary carcinoma, 1440

Estradiol-17 $\beta$ , cancer tissue binding of, in female genital tract, 1895

#### Estrogen

phosvitin synthesis induced by, changes in seryl-tRNA during, 684

synergism between radiation and, to produce mammary cancer, 166

Ethionine, hyperplastic liver nodules induced by, ultrastructural alterations in, 174

2-Ethyl-p-benzoquinone, carcinogenicity of, test for, 957

N-Ethylmaleimide, lymphoma cells modified by, immunization with, 1488

Eukaryotic cells, ribosomal protein synthesis in, 847

Exoribonuclease activity, in nuclei from tracheal epithelial cells, 199

Experimental Medicine and Surgery in Primates, Third Conference on, announcement of, 724

Fatty acid esters, effects on viability and transplantability of ascites tumor cells, 501

#### Fellowship(s)

Eleanor Roosevelt International Cancer,

in cancer immunology, 482

Karnofsky, 1059

Ferritin, in Reuber H-35 hepatomas, 566 α-Fetoprotein

hepatocellular carcinoma and, 1899
quantitation of, electroimmunodiffusion

in, 1899

Fibroblast(s)

correlation of nucleolini with fine structural necleolar constituents in, 1030 transformed by Rous sarcoma virus, effect of rifampicin on, 2032

Fibroblastomas, pulmonary, in deer with cutaneous fibromatosis, 1373

#### Fibrosarcoma (cells)

injection of, immune resistance to, due to sensitizing tumor implant, 1655

syngeneic, graded doses of, metastatic patterns influenced by, 1559 transmissible viral, 953

Fifth International Symposium on Comparative Leukemia Research, 72

Filipin, effect on Ehrlich ascites and Novikoff hepatoma cells, 505

First International Congress of Immunology, 206

#### Fish

melanoma in, 868 effect of sex on, 725

#### N-2-Fluorenylacetamide

hepatocarcinogenesis from, 1 mitotic activity during, effect of Lasparaginase on, 169

#### N-2-Fluorenylhydroxylamine

desulfonation of N-hydroxy-2-fluorenylbenzenesulfonamide to, 778

O-glucuronide of, carcinogenicity of, 1645

5-Fluorodeoxyuridine, effect on thymidine triphosphate, in HeLacells, 1930

Fluorodinitrobenzene, lymphoma cells modified by, immunization with, 1488

DL-p-Fluorophenylalanine, effects on Taper liver tumor, 1669

5-Fluorouracil, effectiveness of, thymidine labeling index and, 448

Fluphenazine HCl, effect on mammary carcinoma, 1111

Folate antiserum, folic acid binding by, 1095

Folic acid binding, by folate antiserum, 1095
Folic acid reductase, methotrexate inhibition
of, 2037

2-Formylpyridine thiosemicarbazone, metabolic effects of, 228

Friend disease, chronic remittent, age factors in, 974

Fructose, 1,6-diphosphatase, in cancer, 1525

Gastric tumors, from N-(β-chloroethyl)-Nnitrosourethan, 573

Gene depression, in hepatomas, 2104

Genital tract, female, cancer tissue from, estradiol-17β binding by, 1895

Genome(s), replication of, in mammalian cell lines, isoleucine regulation of, 46

#### Glioma (cells)

experimental, methotrexate uptake by, 1600

intranuclear paracrystalline fibrillar arrays in, 1210

α-Globulin, embryonic, in serum, during 4dimethylaminoazobenzene carcinogenesis, 1192

#### Glucose metabolism

enzymes of, in human diploid and SV40transformed human diploid cells, 1418

mammary tumor virus effects on, 1955

Glucose 6-phosphate dehydrogenase, to indicate human-hamster somatic cell fusion, 1148

Glucose utilization, in alveolar nodules and mammary adenocarcinomas, 527

β-Glucuronidase, activation of mycophenolic acid by, 477

Glucuronide carcinogenicity, 1645

Glutaminase, in cancer, 1529

Glutamine antagonism, immune response inhibition by, 834

Glyceraldehyde 3-phosphate dehydrogenaseinactivating factor, isolation and characterization of, from ascites tumor cells, 487

Glycerol phosphate dehydrogenase, in cancer, 1529 Glycolysis, of sarcoma lines, Cartesian diver studies on, 1564

Glyoxalase activity, in hepatic regeneration, 1875

Goiter, benign metastasizing, 288

Gordon Research Conference on Cancer, announcement of, 919

#### Graft-versus-host reaction

after 7,12-dimethylbenz(a)anthracene exposure, 1446

antileukemic effect of, time pattern of, 1140

Gross antigen, in BALB leukemias and tumors, 23

Guanylhydrazone, sensitivity to, anionic nature of Sarcoma 180 cell surfaces and, 1369

#### Guinea pig(s)

folic acid binding in, by folate antiserum, 1095

susceptibility to chemical carcinogenesis,

#### Hamster(s)

benzpyrene hydroxylase activity in, effect of ozone on, 730

chicken embryo lethal orphan virus in, T antibodies of, 981

cycasin carcinogenicity in, 283

diethylstilbestrol-induced kidney tumors in, biochemical studies of, 1251

tracheal epithelial cells from, isolation of enzymatically active nuclei from, 199

tracheobronchial epithelium of, effects of benzo(a)pyrene on, 1977

#### Hamster cells

actinomycin D- and amethopterin-resistant, hybridization of, 297

effects of bleomycin on, 1218

growth cycle of, immune cytolysis and, 925

resistance to daunomycin in, 409

survival and cell progression in, effects of 1,3-bis(2-chloroethyl)-1-nitrosourea on, 191

HeLa cells, thymidine triphosphate in, amethopterin and 5-fluorodeoxyuridine effects on, 1930

Hematopoietic cells, during different growth phases, proliferative kinetics of, 1330

#### Hemoglobin synthesis

alanine-specific tRNA stimulation of, 694 initiator tRNA for, 701

Hepatectomy, partial, effect on aflatoxin B<sub>1</sub> carcinogenesis, 491

Hepatic. See also Liver.

Hepatic necrosis, after oral sodium nitrite and secondary amines, 1201

Hepatic nodules, induced by N-2-fluorenylacetamide, 1

Hepatic parenchyma, neoplastic transformation in, hyperblasophilic foci as sites of, 1290 Hepatic regeneration, glyoxalase activity in,

Hepatocarcinogen(s), studies on liver adenosine 5'-phosphate deaminase after, 1341

#### Hepatocarcinogenesis

2-acetylaminofluorene-induced, phenobarbital reduction and enhancement of, 1506

induced by N-2-fluorenylacetamide, I

Hepatocellular carcinoma, α-fetoprotein and, 1899

Hepatocytes, nucleus of, aflatoxin effects on, 1943

#### Hepatoma(s)

adenyl cyclase in, regulation of, 557

aflatoxin-induced, growth of, methyl malvalate and methyl sterculate promotion of, 960

arginine-rich histones in, N-acetylation of. 468

dihydrouracil dehydrogenase activity in, 1004

 $\alpha_1$  fetal antigen in, 930

gene depression in, 2104

induction of tyrosine aminotransferase and amino acid transport in, 1580 metabolism of, in situ, 2177

mitochondrial membrane proteins in, 108 Morris, arginase and argininosuccinate synthetase activity in, hormonal effects on, 12

cell proliferation and tumor growth in, 821

light microscopic observations in, 752

lysosomal and nonlysosomal enzyme activities in, 1632

microbodies of, 763

nuclei of, DNA synthesis in, effect of sucrose on, 1389

regulation of β-hydroxy-β-methylglutaryl coenzyme A reductase in, 1879

Morris 5123C, tRNA from, 656 tRNA methylase activity in, 774

of different growth rates, enzyme patterns in, 743

metabolism of, during ischemia, 2177

Reuber, enzyme patterns in, 808 ferritin properties in, 566

RNA of, 1888

sterol synthesis in, \(\beta\)-hydroxy-\(\beta\)-methylglutaryl coenzyme A reductase activity and, 1396

thymidine utilization in, 550

transplantable, fetal patterns of aldolase in, 1224

tRNA methylase activity in, 1069

#### Hepatoma cells

Novikoff, effect of polyenic antibiotics on, 505

28 SrRNA from, oligonucleotide sequences of, 1888

Herpes-type particles, cytoplasmic envelopment of, in leukocyte culture, 441

Herpesvirus saimiri, morphological studies on, in cell cultures, 1019

Hexokinase-glucokinase, in cancer, 1525

Histological study(ies)

in diagnosis of Hodgkin's disease, 1786, 1799

in Hodgkin's disease, survival and, 1770 of tumor cells exposed to antisera to nerve growth factor, 1483

Histones, arginine-rich, in hepatoma, Nacetylation of, 468

#### Hodgkin's disease

biostatistics on, 1866

bone marrow involvement in, 1755, 1768 contiguity and progression in, 1811

cure for, definition of, 1828

diagnosis of, histological criteria for, 1799 epidemiological aspects of, 1854

extranodal, staging in, prognostic and therapeutic implications in, 1814

laparotomy and splenectomy in, 1737

liver involvement in, 1755, 1768

lymph node involvement in, 1755, 1768 need for new clinical classification in, 1713 of bone marrow, 1733

prognostic factors in, 1801

relationship of histopathological subtype to clinical stage, at diagnosis, 1776

site in relationship of histology to, 1786 spleen involvement in, 1755, 1768 staging of, 1707

chemotherapeutic implications of, 1838 clinical, radiation therapy and, 1834 epidemiological considerations in, 1858,

1866 histopathological criteria in, 1864 mediastinoscopy in, 1741

peritoneoscopy in, 1746

procedures in, 1751, 1862 prognostic and therapeutic implications of, 1851

reappraisal of clinical and biological signs in 1723, 1730

survival in, histological findings and, 1770 vascular invasion in, 1794

Homofolate, purine synthesis inhibition by, 813

Homograft rejection, after 7,12-dimethylbenz(a)anthracene exposure, 1446

#### Hormones

effects on arginase and argininosuccinate synthetase activity, in Morris hepatomas, 12

effects on thymidine kinase activity, in adrenal gland and hormone-dependent adrenal carcinoma, 1348

Host, humoral antibodies in, directed against tumor cells, after ascites tumor suppression, by heteroimmune sera, 1153

Host response, in spontaneously regressing leukemia, 803

Human(s). See also Child(ren). bleomycin therapy in, cytogenic effects of, 2004

brain tumor in, tRNA from, 605

analysis of, using tritium derivative method, 658

tRNA methylase in, 605

breast tumors in, estradiol uptake by, in vivo versus in vitro, 1268

parity and, 77

cancer in, carbohydrate metabolism in, 1273

erythropoietic effect of plasma from, 1355

urinary polyamines in, 1555

colon, cancer in, loss of colonic membrane antigen in, 1038

colonic cells in, proliferating and differentiating, nucleic acid metabolism in, 463

cultured neuroblastoma cells from, annulate lamellae in, 209

delayed hypersensitivity reaction in, 798 epidermal cells in, aromatic hydrocarbon toxicity toward, 1206

genital tract in, female, cancer tissue of, estradiol-17 \$\beta\$ binding by, 1895

glioma cells in, intranuclear paracrystalline fibrillar arrays in, 1210

leukemia in, patterns of isoaccepting phenylalanine tRNA in, 647

plasma amino acids in, 1159 polyamine urinary levels in, 1555

leukemic bone marrow cells in, binding of acridine orange to DNA in, 1128

leukocyte chromosome aberrations in, induced by adriamycin, 32

leukocyte culture from, cytoplasmic envelopment of herpes-type particles in, 441

lung cancer in, lymphocyte interactions in,

lymphocytes of, treated with carcinogens and alkylating agents, DNA repair in, 1297, 1307

lymphoma in, effects of MP virus on, 1066 patterns of isoaccepting phenylalanine tRNA in. 647

malignant melanoma cells in, radiation response of, 830

medulloblastoma in, nuclei of, structural aspects of, 2120

neoplastic colonic lesions in, nucleic acid metabolism in, 463

paraganglioma in, cytomegalovirus from, ultrastructural and biological properties of, 542

6-thioguanine in, pharmacology of, 1627 tumors in, thymidine labeling index in, effectiveness of 5-fluorouracil and,

Humoral factor, in liver regeneration, evaluation of, 322

Hydrocarbons, aromatic, toxicity toward epidermal cells, 1206

Hydrocortisone, effects on DNA and RNA synthesis, in regenerating liver, 876

XUM

N-Hydroxy-2-acetylaminofluorene binding of, to liver nucleic acids, influence of 3-methylcholanthrene and diet on, 1468

O-glucuronide of, carcinogenicity of, 1645 liver nucleic acid binding of, in male versus female rats, 19

N-Hydroxy-2-acetylaminofluorene sulfotransferase, lack of, in rat mammary and Zymbal glands, carcinogenesis and, 387

6-Hydroxydopamine, effect on neuroblastoma cells, 1457

N-Hydroxy-2-fluorenylacetamide

bound to liver DNA, influence of liver regeneration on, 270

reactivity with tissue nucleophiles, 471

N-Hydroxy-3-fluorenylacetamide, reactivity with tissue nucleophiles, 471

N - Hydroxy - 2 - fluorenylbenzenesulfonamide, activation of, 778

5-Hydroxy-2-formylpyridine, deoxyribonucleotide synthesis inhibited by, 235

N - Hydroxy - 2 - formylpyridine thiosemicar bazone, metabolic effects of, 228

p-Hydroxymercuribenzoate, lymphoma cells modified by, immunization with, 1488

## β-Hydroxy-β-methylglutaryl coenzyme A reductase

activity of, sterol synthesis and, in liver and hepatomas, 1396

regulation of, in Morris hepatoma, 1879

N-Hydroxy-1-naphthylamine, carcinogenicity testing of, 1461

N-Hydroxy-2-naphthylamine, carcinogenicity testing of, 1461

Hydroxyurea, cytotoxicity of, in proliferating epidermis and small intestine, 277

Hyperosmotic solutions, in visualizing virions in tumor tissue, 203

Hypersensitivity reaction, delayed, 798

Hyperthermia, leukemic cells injured by, 1451
Hypophysectomy, effect on uptake and clearance of 9,10-dimethyl-1,2-benzanthracene, in mammary parenchymal cells, 2026

Hypothalamic lesions, effect on genesis of spontaneous mammary gland tumors, 854

Hypotonia, leukemic cells injured by, 1451

Immune response, inhibition of, by glutamine antagonism, 834

Immune status, effect on development of artificially induced metastases, 496

**Immunity** 

against adenovirus type 12-induced tumors, antibodies blocking, 997

cellular, effect of Calmette-Guérin bacillus on, in dimethylbenz(a)anthracene-treated rats, 1061

syngeneic tumor, exogenous RNA and, 4 to injected fibrosarcoma cells, due to sensitizing tumor implant, 1655

to tumor isografts, from tumor-bearing mice, 734

to tumor-specific antigens, in virus-induced polyoma, 882

tumor-specific, in immunosuppressed rats with polyoma and Rous sarcoma, 890

#### mmunization

with antigenic carcinogen-protein conjugate, cancer inhibition with, 1550

with chemically modified lymphoma cells, 1488

Immunochemical studies, on liver adenosine 5'-phosphate deaminase, after induction with hepatocarcinogens, 1341

Immunoelectron microscopy, studies on mammary tumor virus and leukemia virus by, 2085

Immunofluorescent studies, of lymph nodes and spleens, of leukotic cattle, 1968

Immunogenicity, of leukemia L1210 sublines, differences in, 1999

Immunological system, model, 1257

#### Immunology

cancer, fellowships in, announcement of, 482

First International Congress of, announcement of, 206

Immunosuppression effects, of long-term combination chemotherapy, in children with leukemia in remission, 420

Implant, tumor, sensitizing, immunity to injected fibrosarcoma cells due to, 1655

Insulin, effect on DNA synthesis and DNA polymerase activity in culture of mammary carcinoma, 59

International Congress on Photobiology, VI, announcement of, 1172

Intestine, small, hydroxyurea cytotoxicity in, 277

lodoacetamide, lymphoma cells modified by, immunization with, 1488

Iodoacetate, lymphoma cells modified by, immunization with, 1488

Ischemia, metabolism of hepatomas during, 2177

Isoantigens, tissue, in pancreatic carcinoma, 1244

Isocitrate dehydrogenase, in cancer, 1527

Isocyanates, ascites tumor growth inhibited by, 937

Isoenzyme, Regan, 1054

#### Isografts

pituitary, effects on spontaneous mammary tumors, 1903

tumor, from tumor-bearing mice, immunity to, 734

Isoleucine, regulation of genome replication in mammalian cell lines by, 46

Isozymes

in cancer, report of symposium "Isozymes and Enzyme Regulation in Cancer," San Diego, March 1971, 1166

Karnofsky Fellowship, announcement of, 1059

Keratoacanthoma, cutaneous, vitamin A acid effects on, actinomycin D modification of, 1080

Kidney. See also Renal.

epithelium of, neoplasms in, induced by dimethylnitrosamine, morphogenesis of, 1496

Kidney tumors, diethylstilbestrol-induced, biochemical studies of, 1251

#### Kinetics

cell proliferation, nucleolar morphology and, in tumors, 789

of proliferation, migration and death of L1210 ascites cells, 402

proliferative, of hematopoietic cells, during different growth phases, 1330

Kinetic studies, on liver adenosine 5'-phosphate deaminase, after induction with hepatocarcinogens, 1341

#### Lactate dehydrogenase

in cancer, 1527

used to indicate human-hamster somatic cell fusion, 1148

Lactation, effects on spontaneous mammary tumors, 1903

Lactose synthetase, in cancer, 1533

Laparotomy, in Hodgkin's disease, 1737

Latin American Cancer Conference, announcement of, 724

#### L-cells

interaction with immune macrophages, ultrastructural study of, 2059

phleomycin effects on, 1422

substrains of, with decreased sensitivity to bis(2-chloroethyl)sulfide, 510

Lentinan, effects on local cellular reaction to tumor grafts, 1590

Letter(s) to the Editor, 203, 917 Leukemia

#### eukemia

alkaline phosphatases in, 1695

Gross antigen in, 23

in remission, in children, long-term combination chemotherapy in, immunosuppressive effects of, 420

L1210, antileukemia serum in, 1606 BCG in, 1606

immunogenicity of, Vibrio cholerae neuraminidase effects on, 2130

methotrexate treatment of, priming dose schedules in, 1429

polyamine accumulation and biosynthesis in, 248

potent rabbit antisera to, immunization schedules for, 7

sublines of, immunogenicity of, differences in, 1999

lymphoblastic, childhood, daunorubicin in, 84

lymphocytes in, tryptophanyl-tRNA synthetase from, 679

Moloney virus-induced, treatment with cyclophosphamide and sensitized allogeneic cells, 1383

patterns of isoaccepting phenylalanine tRNA in, 647

plasma amino acids in, 1159

polyamine urinary levels in, 1555

spontaneously regressing, host response in, 803

transplantable, morphological and growth pattern alterations in, 1990

viral, erythrocyte as virus carrier in, 841 nucleoside deaminase activity in, 274

#### Leukemia cells

human, amino acid requirements of, 1640 injury to, by hyperthermia and hypotonia, 1451

L1210, cultured, conversion of 6-mercaptopurine to 6-methylthiopurine in, 152

nucleic acids from, camptothecin inhibition of, 1883

proliferation, migration and death of, kinetics of, 402

transport and accumulation of triazenoimidazoles by, 135

sensitivity to L-asparaginase, test for, 523

Leukemia research, comparative, Fifth

International Symposium on, an-

nouncement of, 72

#### Leukemia virus

immunoelectron microscopic study of, 2085

Rauscher, in cell culture, decrease in leukemogenic potential in, 260

Leukemogenic potential, in Rauscher leukemia virus in cell culture, rapid decrease in, 260

#### Leukocyte(s)

chromosome aberrations in, induced by adriamycin, 32

migration of, inhibition of, by extracts of patients' cancers, 798

Leukocyte culture, with cytoplasmic envelopment of herpes-type particles, 441

#### Leukosis

avian, virus causing, isolation of non-focusforming agent from, 1010

in cattle, lymph nodes and spleens of, immunofluorescent studies of, 1968

Lichen polysaccharide, effects on local cellular reaction to tumor grafts, 1590

Life Sciences, Biomathematics and Computer Science in, Ninth Annual Symposium on, announcement of, 206

Lipid metabolism, in cultured tumor cells,

#### Liver

adenosine 5'-phosphate deaminase in, after induction with hepatocarcinogens, 1341

alkaline and acid nucleases in, histochemi-

cal activity of, during N-nitrosomorpholine carcinogenesis, 913

antibodies against protein and azoproteins in, localization of, 2110

carcinogenic aminoazo dye-binding proteins in, during feeding of 3'-methyl-4-dimethylaminoazobenzene, 1478

cell nuclei of, DNA synthesis in, effect of sucrose on, 1389

cytosol of, macromolecule binding 3methylcholanthrene in, 1364

differentiating dihydrouracil dehydrogenase activity in, 1004

β-hydroxy-β-methylglutaryl coenczyme A reductase activity in, sterol synthesis and, 1396

induction of tyrosine aminotransferase and amino acid transport in, 1580

involvement in Hodgkin's disease, 1755, 1768

microsomes of, cyclophosphamide metabolism by, 901

mitochondrial membrane proteins in, 108 mitochondrial synthesis of DNA in, stimulation by cytoplasmic factors,

neoplastic, enzymes from, alkylation of tRNA by, 617

nucleic acids of, binding of 2-acetylaminofluorene to, influence of 3-methylcholanthrene and diet on, 1468

cholanthrene and diet on, 1468 regenerating, dihydrouracil dehydrogenase activity in, 1004

DNA and RNA synthesis in, of hydrocortisone-treated rats, 876

humoral factor in, evaluation of, using liver transplants, 322

influence on loss of N-hydroxy-2-fluorenylacetamide bound to liver DNA, 270

preparation of soluble DNA methylase from, 433

ribosome monomers in, due to dimethylnitrosamine, 2189

sterol synthesis in, β-hydroxy-β-methylglutaryl coenzyme A reductase activity and, 1396

thymidine utilization in, 550

tRNA methylase activity in, 774, 1069

#### Liver nodules

hyperplastic, ultrastructural alterations in, induced by ethionine, 174

induced by N-2-fluorenylacetamide, mitotic activity during, effect of Lasparaginase on, 169

Liver nuclei, RNA polymerase activity in, affected by aminoazobenzene and its derivatives, 239

Liver tranplants, in evaluation of humoral factor in liver regeneration, 322

Liver tumor, Taper, effects of DL-p-fluorophenylalanine and L-3-nitrotyrosine on, 1669

Lucensomycin, effect on Ehrlich ascites and Novikoff hepatoma cells, 505

#### Lung(s)

fibroblastomas in, in deer with cutaneous fibromatosis, 1373

response to vinyl chloride, 516

Lung cancer, lymphocyte interactions in, 214 Lung lesions, from N-(β-chloroethyl)-N-nitrosourethan, 573

#### Lymph nodes

in leukotic cattle, immunofluorescent studies of, 1968

involvement in Hodgkin's disease, 1755, 1768 Lymphoblast(s), nitrogen mustard effects on, 1616

Lymphoblastic cell line, thymidylate synthetase activity in, methotrexate and cytosine arabinoside modulation of, 457

Lymphoblastoid cell lines, cytogenetic studies of, 308

#### Lymphocyte(s)

blastogenesis in, effect of azotomycin on, 834

in human leukemia, tryptophanyl-tRNA synthetase from, 679

interactions of, in human lung cancer, 214 treated with carcinogens and alkylating agents, DNA repair in, 1297, 1307

Lymphography, current status of, 1731

#### Lymphoma (cells)

chemically modified, immunization with, 1488

combined radiotherapy and chemotherapy in, 1845

effects of MP virus infection on, 1066 malignant, chemically induced, spontaneous regression of, 2008

in Peyer's plaques, 2047

patterns of isoaccepting phenylalanine tRNA in, 647

reticulum cell, elevated protein levels and, 1673

thymic, tumor antigens in, serological studies of, 1285

virus-induced, alkaline phosphatase changes due to, 1702

Lysosomal enzymes, in mammary gland carcinomas, effect of X-irradiation on, 392

Lysosomes, activities in Morris hepatomas, 1632

Macrophages, immune, L-cell interaction with, ultrastructure study of, 2059

Malate dehydrogenase, in cancer, 1528

Malignant cells, differentiation of, to benign cells, 127

Malignant transformation, tRNA methylases and, 630

#### Mammalian cells

differentiated, isoaccepting tRNA's in, 639 nucleoli of, effects of actinomycin D on, 1915

effects of proflavine on, 1915

survival and progression in, effects of β-2'-deoxythioguanosine on, 583

Mammalian genetics, course on, announcement of, 919

Mammalian tissues, tRNA specificity in,

Mammary. See also Breast.

#### Mammary adenocarcinoma

glucose and acetate utilization in, 527 mitochondria of, ultrastructure study of, 2148

Mammary cancer, production of, synergism between radiation and estrogen in, 166

#### Mammary carcinoma

culture of, DNA synthesis and DNA polymerase activity in, effect of insulin on, 59

effect of fluphenazine HCl on, 1111

hormone-dependent versus hormone-independent, macromolecular binding of estradiol in, 1440

lysosomal enzymes of, effect of X-irradiation on, 392

prolactin-dependent, regression of, from antihormone treatment, 817

regression of, after ovariectomy, biochemical events associated with, 52 spontaneous, electron microscopy of, 1261 virus-like particles in, 1261

#### Mammary cells

neoplastic, methylation of tRNA in, 644 changes in hybridizable nRNA during, 427

#### Mammary gland

lack of N-hydroxy-2-acetylaminofluorene sulfotransferase activity in, carcinogenesis and, 387

mitochondria of, ultrastructure of, 2148

Mammary parenchymal cells, uptake and clearance of 9,10-dimethyl-1,2-benzanthracene by, effect of endocrine gland ablation on, 2026

#### Mammary tumors

7,12-dimethylbenzanthracene-induced, effects of ergocornine and ergocryptine on, 1051

regression after oophorectomy, biochemical changes preceding, 1195

DNA translocation in, 1231

formation of, effect of Calmette-Guérin bacillus on, in dimethylbenz(a)anthracene-treated rats, 1061

MTW9, metabolic studies on, after resection of mammosomatotropic tumor MtTW5, 1360

spontaneous, cross-reactivity with transplantable ascites tumors, 1682

effects of pregnancy, lactation, and pituitary isografts on, 1903 hypothalamic lesions and, 854

#### Mammary tumor virus

effects on glucose metabolism, 1955 immunoelectron microscopic study of, 2085

localization of, in mouse erythrocytes, 479 Mammosomatotropic tumor, MtTW5, re-

section of, metabolic studies on mammary tumor MTW9 after, 1360

#### Man. See Human(s).

Marek's disease, tumors in, altered tRNA methylase patterns in, 613

Mastocytoma cells, DNA content of, after RNA inhibition by 6-azauridine, 1188

Mediastinoscopy, in staging Hodgkin's disease, 1741

Medulloblastoma, nuclei of, structural aspects of, 2120

Melanoma (cells), cell proliferation in, effects of arabinosylcytosine on, 66 effect of sex on, in Xiphophorus fish, 725 malignant, radiation response of, 830 melanotic and amelanotic, in xiphophorin fish, 868

Melphalan, effects on hemopoietic stem cells and myeloma cells, 2116

#### 6-Mercaptopurine

conversion to 6-methylthiopurine ribonucleotide, in cultured L1210 leukemia cells. 152

neoplastic cells resistant to, phosphohydrolase activity in, 1620

Mesenchymal cell neoplasm, spontaneous, 826

Metabolic inhibitors, effect on urethan carcinogenesis, 483

Metabolic studies, on mammary tumor MTW9, after resection of mammosomatotropic tumor MtTW5, 1360

Metabolism. See also specific type of metabolism; for example, Carbohydrate metabolism.

effects of pyridine carboxaldehyde thiosemicarbazones on, 228

#### Metastases

artificially induced, effect of immune status on development of, 496

patterns of, after graded doses of syngeneic fibrosarcoma cells, 1559

Methasquin, urinary and biliary excretion of, 964

#### Methotrexate

cytotoxicity of, in small intestine, 2037
DNA inhibition by, in small intestine, 2037

effects on normal mouse bone marrow, 185 folic acid reductase inhibition by, 2037

leukemia L1210 treated with, priming dose schedules in, 1429

modulation of thymidylate synthetase activity by, in CCRF-CEM cells, 457

uptake by experimental glioma, 1600

#### Methylases

nucleic acid, in cancer induction, 599 tRNA. See tRNA methylase(s).

Methylation, of tRNA, in cell cultures, 609 2 - Methyl - p - benzoquinone carcinogenicity, test for, 957

#### 3-Methylcholanthrene

compounds derived from, by irradiation in dimethyl sulfoxide, isolation, identification, and biological study of, 1402

effect on urethan carcinogenesis, 483

influence on binding of 2-acetylaminofluorene to liver nucleic acids, 1468

isolation and biological study of, 1492 macromolecules binding in liver cytosol, identity of corticosteroid Binder I

3-Methylcholanthrene-1,2-diol, isolation and biological study of, 1492

with, 1364

3-Methylcholanthren-1-ol, isolation and biological study of, 1492

3-Methylcholanthren-1-one, isolation and biological study of, 1492

Methyl-di-2-chloroethylamine, cross-linking of DNA by, 1573

2-Methyl-N, N-dimethyl-4-aminoazobenzene, RNA polymerase affected by, in liver nuclei, 239

#### 3'-Methyl-4-dimethylaminoazobenzene

feeding of, changes in aminoazo dyebinding proteins due to, 1478

induction with, studies on liver adenosine 5'-phosphate-deaminase after, 1341

Methyl malvalate, promotion of hepatoma growth by, 960

Methyl sterculate, promotion of hepatoma growth by, 960

6-Methylthiopurine ribonucleotide, formation and significance of, in cultured L1210 leukemia cells, 152

5-Methyluridine, function in tRNA, of Escherichia coli, 706

Microbodies, of Morris hepatomas, 763

Microsomes, liver, cyclophosphamide metabolism by, 901

Mitochondria, of mammary gland, ultrastructure of, 2148

Mitochondrial membrane, protein in, in hepatomas and liver, 108

Mitomycin C, cross-linking of DNA by, 1573

Mitotic activity, during N-2-fluorenylacetamide hepatocarcinogenesis, effect of L-asparaginase on, 169

Moloney virus, leukemia induced with, treatment with cyclophosphamide and sensitized allogeneic cells, 1383

### Monkey

hepatoma in, tRNA methylase activity in, 1069

liver in, tRNA methylase activity in, 1069 3-tritylthio- L-alanine pharmacokinetics in, 1908

#### Mouse (mice)

adenovirus type 12-induced tumors in, immunity against, antibodies blocking, 997

allogeneic, antibody production in, effects of L-asparaginase on, 114 tumor growth in, effects of L-asparaginase on, 114

alveolar nodules and mammary carcinomas in, utilization of glucose and acetate in, 527

BALB, leukemias and tumors in, Gross antigen in, 23

BALB/c and RF, dimethylnitrosamine and diethylnitrosamine given to, tumor types and organ susceptibility in, 196

bone marrow stem cells in, responses to radiation of, in relation to cell cycle, 1613

brain tumor in, chemotherapy of, 1600

C3H, glucose metabolism in, mammary tumor virus effects on, 1955

chronic remittent Friend disease in, age factors in, 974

cytotoxic antibodies in, 997

Ehrlich ascites tumor in, effects of arabinosylcytosine on, 66

growth of, isocyanate inhibition of, 937

epidermis of, nucleic acids and proteins of, incorporation of tritiated precursors into, effect of phorbol and phorbol diesters on, 1434

transplantation of, during chemical carcinogenesis, 2080

erythrocytes of, mammary tumor virus localization in, 479

experimental glioma in, methotrexate uptake by, 1600

fibrosarcoma cells injected into, immune resistance to, due to sensitizing tumor implant, 1655

folic acid reductase activity in, methotrexate inhibition of, 2037

graft-versus-host reaction in, antileukemic effect of, time pattern of, 1140

hepatic necrosis and toxicity in, due to sodium nitrite and secondary amines, 1201

hepatomas in,  $\alpha_1$  fetal antigen in, 930 of different growth rates, enzyme patterns in, 743

hydroxycytotoxicity in, in proliferating epidermis and small intestine, 277

hypothalamic lesions in, effect on spontaneous mammary gland tumors, 854

immune, macrophage and L-cell interaction in, ultrastructure study of, 2059

leukemia in, alkaline phosphatases in, biochemical study of, 1695

erythrocyte as virus carrier in, 841

L1210 antileukemia serum in, 1606 BCG in, 1606

immunogenicity of, differences in, 1999

methotrexate treatment of, priming dose schedules in, 1429

polyamine accumulation and biosynthesis in, 248 Vibrio cholerae neuraminidase effects on, 2130

liver and hepatomas in, sterol synthesis in, β-hydroxy-β-methylglutaryl coenzyme A reductase activity and, 1396

liver catalase in, depression induced by biological substances, 2018

malignant lymphoma in, chemically induced, spontaneous regression of, 2008

in Peyer's plaques, 2047

mammary adenocarcinoma in, mitochondria of, ultrastructure of, 2148

mammary carcinomas in, lysosomal enzymes of, effect of X-irradiation on, 392

mammary cells of, hybridizable nRNA in, changes in, during neoplastic development of mouse mammary cells, 427

mammary gland of, mitochondria of, ultrastructure study of, 2148

mammary tumor of, virus virion antigens of, strain specificity in, 1473

melanoma in, effects of arabinosylcytosine on, 66

metabolism of, effects of pyridine carboxaldehyde thiosemicarbazones on, 228

metastatic patterns in, after graded doses of syngeneic fibrosarcoma cells, 1559

methylcholanthrene-induced sarcomas in, phytohemagglutinin unresponsiveness in spleen cells and, 864

Moloney sarcoma in, effects of daunomycin and adriamycin on, 1971

Moloney virus-induced leukemia in, treatment with cyclophosphamide and sensitized allogeneic cells, 1383

myeloma and hemopoietic stem cells in, effects of melphalan on, 2116

normal bone marrow in, effects of chemotherapeutic agents on, 185

perinatal carcinogenesis in, from urethan, 2143

potent rabbit antisera to L1210 leukemia in, immunization schedules for, 7

radiation carcinogenesis in, effect of age, fractionation, and dose on, 2133

reticulum cell lymphoma in, elevated protein levels in, 1673

skin of, tumor-promoting activity of phorbol and phorbol esters in, 1074

small intestine of, methotrexate cytoxicity in, 2037

spontaneously regressing leukemia in, host response in, 803

spontaneous mammary tumors in, crossreactivity with transplantable ascites tumors, 1682

effects of pregnancy, lactation, and pituitary isografts on, 1903

submaxillary gland from, epithelial-epi-

dermal growth factor in, synthesis and storage of, 252

syngeneic tumor immunity in, exogenous RNA and, 4

Taper liver tumor in, effects of DL-pfluorophenylalanine and L-3-nitrotyrosine on, 1669

teratomas in,  $\alpha_1$  fetal antigen in, 930

thymic lymphomas in, tumor antigens in, serological studies of, 1285

virus-induced, alkaline phosphatase changes in, 1702

transplantable Reuber hepatomas in, enzyme patterns in, 808

tumor-bearing, immunity to tumor isografts from, 734

skin grafts from, survival of, sex aspects of, 122

tumor grafts in, local cellular reactions to, after treatment with plant polysaccharides, 1590

vaginal and rectal epithelium in, in screening antimitotic effects of drugs, 851

viral leukemia in, nucleoside deaminase activity in, 274

MP virus, effects on lymphoma, 1066

Mutagens, rapid detection of, 970

Mycophenolic acid, in situ activation of, by  $\beta$ -glucuronidase, 477

Myeloma cells, effect of melphalan on, 2116

β-Naphthoflavone, effect on urethan carcinogenesis, 483

National Cancer Institute, carcinogenesis contract program of, announcement of, 1169

N-(Nebularin-6-ylcarbomoyl)-L-threonine, derivatives of, physiological activity of, 704

Neoplasm(s)

L-asparaginase treatment of, in children, 942

epithelial, in kidney, induced by dimethylnitrosamine, morphogenesis of, 1496

malignant, combined radiotherapy and chemotherapy in, 1845

tRNA modification in, 591

Neoplastic cells

fine structural constituents of, correlation of nucleolini with, 1030

nuclear pockets in, associated with nucleolus, 159

resistance to 6-thiopurines by, 1620

Neoplastic transformation, in hepatic parenchyma, hyperbasophilic foci as sites of, 1290

Nerve growth factor, antisera to, tumor cells exposed to, histology and ultrastructure of, 1483

Neuroblastoma (cells)

cultured human, annulate lamellae in, 209

effect of dopamine and 6-hydroxydopamine on, 1457

in children, prognosis for 2098

Newt, spontaneous mesenchymal cell neoplasm in, 826

Nickel sulfide, 3,4-benzpyrene and, sarcoma induction by, 2067

Nitrofuraldehyde semicarbazone, breakage of bacterial DNA by, 2184

Nitrofuran derivatives, breakage of bacterial DNA by, 2184

N-(5-Nitro-2-furfurylidine)-1-aminohydantoin, breakage of bacterial DNA by, 2184

N-[4-(5-Nitro-2-furyl)-2-thiazolyl]formamide, breakage of bacterial DNA by, 2184

Nitrogen mustard

effects on normal mouse bone marrow, 185 L5178Y lymphoblasts affected by, 1616

4-Nitroquinoline, DNA interaction with, proposed model of, 413

N-Nitrosomorpholine, carcinogenesis due to liver nuclease histochemical activity during, 913

L-3-Nitrotyrosine, effects on Taper liver tumor, 1669

Novikoff hepatoma cells. See Hepatoma cells.

Nuclear pockets, associated with nucleolus, in normal and neoplastic cells, 159

Nucleases, histochemical activity of, in liver, during N-nitrosomorpholine carcinogenesis, 913

Nucleic acid(s)

binding of polycyclic aromatic hydrocarbons to, from transformable cells, 2168

from leukemia L1210 cells, camptothecin inhibition of, 1883

incorporation of tritiated precursors into, effects of phorbol and phorbol diesters on, in mouse epidermis, 1434

liver, binding of 2-acetylaminofluorene to, influence of 3-methylcholanthrene and diet on, 1468

in male versus female rats, 19

metabolism of, in estrogen-dependent adrenocortical carcinoma, 265

in proliferating and differentiating colonic cells of man, and in neoplastic lesions of colon, 463

synthesis of, nucleolar morphology and, in tumors, 789

Nucleic acid methylases, in cancer induction, 599

Nucleolinus(i) correlation with fine structural nucleolar constituents of neoplastic cells, 1030

Nucleolus(i) changes in, induced by actinomycin D, 140

morphology of, cell proliferation kinetics and, in tumors, 789

nuclear pockets associated with, in normal and neoplastic cells, 159

of mammalian cells, effects of proflavine and actinomycin D on, 1915

Nucleophiles, tissue, reactivity of carcinogens with, 471

Nucleoside deaminase activity, in viral leukemia, 274

Nucleotides, catalase inhibition by, 2018 Nucleus(i)

changes in, induced by actinomycin D,

DNA in, in VX-2 carcinoma, bleomycin effects on, 992

enzymatically active, from tracheal epithelial cells, isolation of, 199

hybridizable RNA in, changes in, during neoplastic development of mammary cells, 427

liver, RNA polymerase activity in, affected by aminoazobenzene and its derivatives, 239

of liver and hepatomas, DNA synthesis in, effect of sucrose on, 1389

of medulloblastoma, structural aspects of, 1903

Obituary, 1316

Oligonucleotide sequences, of 28 S rRNA, of Novikoff hepatoma ascites cells, 1888

Oncogenic cells, tRNA methylases in, 451
Oncogenic systems, tRNA and tRNA
methylation in, 621

Oophorectomy, regression of 7,12-dimethylbenz(a)anthracene-induced mammary tumors after, biochemical changes preceding, 1195

Ovariectomy

effect on uptake and clearance of 9,10dimethyl-1,2-benzanthracene of, in mammary parenchymal cells, 2026

mammary carcinoma regression after, biochemical events associates with, 52

Ozone, effect on benzypyrene hydroxylase activity, 730

Pancreatic carcinoma, tissue antigens A, B, and H in, 1244

Pan-Pacific Surgical Association Congress, announcement of, 1172

Paraganglioma, cytomegalovirus from, ultrastructural and biological properties of, 542

Parity, breast cancer and, 77

Peritoneoscopy, in staging of Hodgkin's disease, 1746

Peyer's plaques, malignant lymphomas in, 2047

Pharmacology, of 6-thioguanine, 1627 Phenobarbital

effect on urethan carcinogenesis, 483 reduction and enhancement of 2-acetylaminofluorene-induced hepatocarcinogenesis by, 1506 Phenothiazine, effect on urethan carcinogenesis, 483

Phleomycin, effects on L-cells, 1422 Phorbol

effects on incorporation of tritiated precursors into nucleic acids and proteins, in epidermis, 1434

tumor-promoting activity of, in skin, 1074

Phosphohydrolase activity, in neoplastic cells resistant to 6-thiopurine, 1620

Phospholipid, in tumor cell membrane, 27
Phosphorylation, enzymatic, of 1-β-Darabinofuranosylcytosine, 1376

Phosvitin synthesis, estrogen-induced, changes in seryl-tRNA during, 684

Photodynamic activity, of polycyclic compounds, association between enzyme-inducing activity and, 1087

Phytohemagglutinin, unresponsiveness in spleen cells, induced by methylcholanthrene sarcomas, 864

Pituitary isografts, effects on spontaneous mammary tumors 1903

Plasma, from cancer patients, erythropoietic effect of, 1355

Polyamine(s)

accumulation and biosynthesis of, in L1210 leukemia, 248

urinary, in cancer patients, 1555
Polycyclic compounds

association between photodynamic and enzyme-inducing activities in, 1087

hamster embryo cells transformed by, morphological, oncogenic, and karyological characteristics of, 1118

Polyelectrolytes, cationic, effects on tumor cells, 373

Polyethyleneimine, effects on tumor cells, 373

Polyoma

in immunosuppressed rats, tumor-specific immunity in, 890

virus-induced, tumor-specific antigens in, cellular and humoral immunity to, 882

Polyoxyethylene sorbitan monolaurate, effects on viability and transplantability of Ehrlich ascites tumor cells. 501

Polypropyleneimine, effects on tumor cells,

Polyribosomes, cytoplasmic, in synthesis of ribosomal proteins, in eukaryotic cells, 847

Polysaccharides, plant, effects on local cellular reaction to tumor grafts, 1590

Polyvinylamine, effects on tumor cells, 373

Pregnancy, effects on spontaneous mammary tumors, 1903

Presidential Address: E Pluribus Unum, 1319

Proflavine, effects on nucleoli of mammalian cells, 1915

#### Protein(s)

- aminoazo dye-binding, in liver, changes in, during 3'-methyl-4-dimethylaminoazobenzene feeding, 1478
- binding of polycyclic aromatic hydrocarbons to, from transformable cells, 2168
- biosynthesis of, in experimental tumor cells, effect of ricin on, 921
- h, antibodies against, localization of, from liver, 2110
- in mouse epidermis, incorporation of tritiated precursors into, effects of phorbol and phorbol diesters on, 1434
- mitochondrial membrane, in hepatomas and liver, 108
- serum, elevated levels of, in lymphomabearing mice, 1673
- serum production of, effect of albumin on, 1962
- synthesis of, pyrrolidone-carboxylic acid in, decyclization before, 1134
- ribosomal, polyribosomes in, in eukaryotic cells, 847
- urinary, elevated levels of, in lymphomabearing mice, 1673
- Purine ribonucleotides, interconversion of, in ascites tumor cells, ratelimiting steps in, 985

#### Purine synthesis

- inhibitors of, 813
- metabolic effects of 1,3-bis(2-chloroethyl)-1-nitrosourea on, 332
- Puromycin, effect on urethan carcinogenesis, 483

#### Pyridine carboxaldehyde thiosemicarbazones

- deoxyribonucleotide synthesis inhibited by, 235
- metabolic effects of, 228
- Pyrimidine, catabolism of, 5-cyanouracil inhibition of, 909
- Pyrrolidone-carboxylic acid, decyclization of, before use in protein biosynthesis, 1134
- Pyruvate kinase, in cancer, 1527

#### Rabbit(s)

- cutaneous keratoacanthoma in, vitamin A acid effects on, actinomycin D modification of, 1080
- folic acid binding in, by folate antiserum, 1095 VX-2 carcinoma of, nuclear DNA in,
- bleomycin effects on, 992

  Rabbit antisera, to L1210 leukemia, immunization schedules for, 7

#### Radiation

- bone marrow stem cell responses to, in relation to cell cycle, 1613
- synergism between estrogen and, to produce mammary cancer, 166
- tumorigenesis induced by, age factors in, 1543

Radiation carcinogenesis, effect of age, fractionation, and dose on, 2133

#### Radiotherapy

chemotherapy and, in lymphomas and other malignant neoplasms, 1875 in Hodgkin's disease, 1834

#### Rats

- 2-acetylaminofluorene-induced hepatocarcinogenesis in, phenobarbital reduction and enhancement of, 1506
- 2-acethlaminofluorene-induced hepatocarcinogenesis in, phenobarbital reduction and enhancement of, 1506
- adrenal gland of, thymidine kinase activity in, hormonal effects on, 1348
- aflatoxin carcinogenicity in, 1936
- albumin metabolism in, tumor-altered, effects of adrenalectomy and highprotein diet on, 257
- ascites tumors in, identification of threeline electron spin resonance signal in, 179
- azo dye carcinogenesis in, bile acid involvement in, 538
- benign metastasizing goiter in, 288
- benzoquinone carcinogenicity in, test for, 957
- carcinogenicity of glucuronides of N-hydroxy-2-acetylaminofluorene and
  N-2-fluorenylhydroxylamine in,
- chloroma in, alkaline phosphatase from, purification and properties of, 32
- desulfonation of N-hydroxy-2-fluorenylbenzenesulfonamide to N-2fluorenylhydroxylamine in, 778
- differentiating and regenerating liver in, dihydrouracil dehydrogenase activity in, 1004
- differentiation of malignant to benign cells in, 127
- 7, 12-dimethylbenz(a)anthracenecarcinogenicity in, 1951
- exposure in, depression of homograft rejection and graft-versus-host reactivity after, 1446
- 7,12-dimethylbenz(a)anthracene induced mammary tumors in, regression after oophorectomy, biochemical changes preceding, 1195
- dimethylbenz(a)anthracene-treated, mammary tumor and cellular immunity in, effect of Calmette-Guérin bacillus on, 1061
- endocrine gland ablation in, effect on uptake and clearance of 9,10-dimethyl-1,2-benzanthracene, by mammary parenchymal cells, 2026
- estrogen-dependent adrenocortical carcinoma in, estrogen removal from, morphological effects of, 1042
- N-2-fluorenylacetamide hepatocarcinogenesis in, mitotic activity during, effect of L-asparaginase on, 169

- gastric tumors and lung lesions in, from N-(β-chloroethyl)-N-nitrosourethan. 573
- glyoxalase activity in, in hepatic regeneration, 1875
- hepatic mitochondria of, DNA synthesis in, stimulation by cytoplasmic factors, 2054
- hepatic parenchyma of, neoplastic transformation in, hyperbasophilic foci as sites of, 1290
- hepatocarcinogenesis in, induced by N-2fluorenylacetamide, 1
  - phenobarbital reduction and enhancement of, 1506
- hepatocyte of, aflatoxin effects on, 1943
- hepatomas in, dihydrouracil dehydrogenase activity in, 1004
  - ferritin properties in, 566
- fetal pattern of aldolase in, 1224
- gene depression in, 4104
- induction of tyrosine aminotransferase and amino acid transport in, 1580
- mitochondrial membrane protein in, 108 regulation of adenyl cyclase in, 557
- RNA of, 1888
- thymidine utilization in, 550
- homograft rejection and graft-versus-host reactivity in, after exposure to 7,12-dimethylbenz(a)anthracene, 1446
- hormone-dependent adrenal carcinoma in, hormonal effects on thymidine kinase in, 1348
- hydrocortisone treated, regenerating liver in, effects on DNA and RNA synthesis, 876
- hyperplastic liver nodules in, induced by ethionine, ultrastructural alterations in, 174
- immunosuppressed, polyoma in, tumorspecific immunity in, 890
- leukemia in, morphological and growth pattern changes in, 1990
- liver adenosine 5'-phosphate deaminase in, studies on, after induction with hepatocarcinogens, 1341
- liver cell nuclei in, RNA polymerase activity in, affected by aminoazobenzene and its derivatives, 239
- liver in, acid and alkaline nucleases in, histochemical activity of, during N-nitrosomorpholine carcinogenesis, 913
- carcinogenic aminoazo dye-binding proteins in, during feeding of 3'methyl-4-dimethylaminoazobenzene, 1478
- localization of antibodies against h proteins and azoproteins in, 2110
- mitochondrial membrane protein in, 108 regenerating, preparation of soluble DNA methylase from, 433
- ribosome monomers in, after dimethyl-

XUM

nitrosamine administration, 2189,

thymidine utilization in, 550

tRNA methylase activity in, 774

liver microsomes in, cyclophosphamide metabolism by, 901

liver nucleic acids in, binding of 2-acetylaminofluorene to, influence of 3methylcholanthrene and diet on, 1468

liver regeneration in, humoral factor in, 322

influence on loss of N-hydroxy-2fluorenylacetamide bound to liver DNA, 270

mammary cancer in, effect of fluphenazine HCl on, 1111

hormone-dependent versus hormoneindependent, macromolecular binding of estradiol in, 1440

production of, synergism between radiation and estrogen in, 166

prolactin-dependent, regression of, from antihormone treatment, 817

mammary gland of, lack of N-hydroxy-2acetylaminofluorene sulfotransferase activity in, carcinogenesis and, 387

mammary tumors in, 7,12-dimethylbenzanthracene-induced, effects of ergocornine and ergocryptine on, 1051

DNA translocation in, 1231

MTW9, metabolic studies on, after resection of mammosomatotropic tumor, 1360

methasquin excretion in, 964

Morris hepatomas in, arginase and argininosuccinate synthetase activity in, hormonal effects on, 12

cell proliferation and tumor growth in, 821

light microscopic observations in, 752

lysosomal and nonlysosomal enzyme activities in, 1632

microbodies of, 763

regulation of β-hydroxy-β-methylglutaryl coenzyme A reductase in, 1879

Novikoff hepatoma cells from, 28 S rRNA from, oligonucleotide sequences of, 1888

ovariectomy in, mammary carcinoma regression after, biochemical events associated with. 52

partition of energy expenditure between host and tumor in, 98

preimmunization with antigenic carcinogen-protein conjugate, cancer inhibition with, 1550

protein binding of aminoazo dye in, changes in, during 3'-methyl-4dimethylaminoazobenzene feeding, 1478

pyrimidine catabolism in, 5-cyanouracil inhibition of, 909

renal adenocarcinoma in, induced by dimethylnitrosamine, ultrastructural aspects of, 366

renal epithelial neoplasms in, induced by dimethylnitrosamine, morphogenesis of, 1496

renocortical mesenchymal neoplasia in, induced by dimethylnitrosamine, 337, 348

response to vinyl chloride by, in skin, lungs, and bones, 516

sarcoma induction in, by 3,4-benzpyrene and nickel sulfide, 2067

thyroid tumors in, 288

biochemical and cytogenetic properties of, 577

3-tritylothio-L-alanine pharmacokinetics in, 1908

tumor-bearing, serum protein production in, effect of albumin on, 1962

tumor(s) in, X-irradiation of, cell proliferation kinetics of, 1279

tumorigenesis in, radiation-induced, age factors in, 1543

virus-induced polyoma in, tumor-specific antigens in, cellular and humoral immunity to, 882

Walker carcinoma 256 in, vascularity in, 587

zoxazolamine hydroxylase induction in, by polycyclic compounds, 1087

Zymbal's gland of, lack of N-hydroxy-2acetylaminofluorene sulfotransferase activity in, carcinogenesis and,

Red blood cells. See Erythrocyte(s).

Regan isoenzyme, 1054

Renal. See also Kidney.

Renal adenocarcinoma, induced by dimethylnitrosamine, ultrastructural aspects of, 366

Renal cortex, mesenchymal neoplasia in, induced by dimethylnitrosamine, ultrastructural study of, 337, 348

Respiration, of sarcoma lines, Cartesian diver studies on, 1564

Ribonucleic acid. See RNA.

Ribonucleotides, purine, interconversion of, in ascites tumor cells, 985

Ribosome, hepatic, after dimethylnitrosamine administration, 1888

Ricin, effect on biosynthesis of protein and nucleic acids, 921

Rifampicin, effect on cells transformed by Rous sarcoma virus, 2032

RNA

chemical carcinogens and, 651

exogenous, effect on syngeneic tumor immunity in, 4

nuclear, hybridizable, changes in, during neoplastic development of mammary cells, 427

of hepatomas, 1888

28 S ribosomal, comparative oligonucleotide sequences of, from Novikoff hepatoma ascites cells, 1888

synthesis of, 6-azauridine inhibition of, DNA in mastocytoma cells after, 1188

in experimental tumor cells, effect of ricin on, 921

in regenerating liver, of hydrocortisonetreated rats, 876

transfer. See tRNA.

RNA methylase, transfer. See tRNA methylase.

**RNA** polymerase

affected by aminobenzene and its derivatives, in liver nuclei, 239

aflatoxin inhibition of, 1943

in isolated nuclei from tracheal epithelial cells, 199

Roosters, estrogen-induced phosvitin synthesis in, changes in seryl-tRNA during, 684

São, Paulo, Brazil, breast cancer in, 77

growth of, genotype-dependent modification of, 1570

induction of, by 3,4-benzpyrene and nickel sulfide, 2067

by methylcholanthrene, phytohemagglutinin unresponsiveness in, spleen cells and, 864

Moloney, adriamycin effects on, 1971 daunomycin effects on, 1971

Rous, in immunosuppressed rats, tumorspecific immunity in, 890

Sarcoma 180 cell, surfaces of, anionic nature of sensitivity to 4,4'-diacetyldiphenylurea-bis(guanylhydrazone) and, 1369

Sarcoma lines, respiration and glycolysis of, Cartesian diver studies on, 1564

Serological studies, of tumor antigens, in thymic lymphomas, 1285

Serum(a), heteroimmune, ascites tumor suppression by, 1153

Sesquiterpene lactones, cytotoxicity of, 1649

Seventh International Congress of Chemotherapy, announcement of, 919

Sex, effect on melanoma, 725

Signs, clinical and biological, in staging Hodgkin's disease, 1723, 1730

Skin

fibromatosis of, in deer, pulmonary fibroblastomas in, 1373

keratoacanthoma of, vitamin A acid effects on, actinomycin D modification of, 1080

response to vinyl chloride, 516

tumor-promoting activity of phorbol and phorbol esters in, 1074

Skin grafts, from tumor-bearing mice, survival of, sex aspects of, 122

Small intestine, hydroxyurea cytotoxicity in, 277

Sodium nitrite, secondary amines and,

toxicity and hepatic necrosis due to, 1201

Somatic cell fusion, human-hamster, 1148 Spleen (cells)

in leukotic cattle, immunofluorescent studies of, 1968

involvement in Hodgkin's disease, 1755, 1768

phytohemagglutinin unresponsiveness in, induced by methylcholanthrene sarcomas, 864

Splenectomy, in Hodgkin's disease, 1737 Staging, of Hodgkin's disease. See Hodgkin's disease.

Stem cells, hemopoietic, effect of melphalan on, 2116

Steroid excretion, effects on uptake of estradiol by breast tumors, 1268

Sterol synthesis, β-hydroxy-β-methylglutaryl coenzyme A reductase activity and, in liver and hepatomas, 1396

Submaxillary gland, epithelial-epidermal growth factor in, synthesis and storage of, 252

Sucrose, effect on DNA synthesis in nuclei of liver and hepatoma, 1389

Symposia: Transfer RNA and Transfer RNA Modification in Differentiation and Neoplasia, 591 Staging in Hodgkin's Disease, 1707

Syngeneic tumor immunity, exogenous RNA and, 4

Synthetase, tRNA, 671, 679

T antibodies, of chicken embryo lethal orphan virus, 981

Teratomas,  $\alpha_1$  fetal antigen in, 930

12-O-Tetradecanoyl-phorbol-13-acetate carcinogenicity, 1074

Tetrahydrohomofolate, purine synthesis inhibition by, 813

Thioacetamide, induction with, studies on liver adenosine 5'-phosphate deaminase after, 1341

6-Thioguanine

neoplastic cells resistant to, phosphohydrolase activity in, 1620 pharmacology of, 1627

6-Thiopurines, resistance of neoplastic cells to, 1620

Thymidine kinase, hormonal effects on, in hormone-dependent adrenal carcinoma, 1348

Thymidine labeling index, effectiveness of 5-fluorouracil and, 448

Thymidine triphosphate, in HeLa cells, effect of amethopterin and 5-fluorodeoxyuridine on, 1930

Thymidine utilization, in differentiating, regenerating and neoplastic liver, 550

Thymidylate synthetase

activity in CCRF-CEM cells, 1181 methotrexate and cytosine arabinoside modulation of, 457 **Thymus** 

lymphomas of, tumor antigens in, serological studies of, 1258

virus-induced, alkaline phosphatase changes in, 1702

Thyroid tumors

biochemical and cytogenetic properties of, 577

transplantable, 288

Tissue transplantation, cancerous, in Xenopus laevis, 1594

Toad, cancerous tissue transplantation in, 1594

Tracheal epithelial cells, enzymatically active nuclei from, 199

Tracheobronchial epithelium, effects of benzo(a)pyrene on, 1977

Transfer RNA. See tRNA.

Transitional cell, hyperplasia of, in bladders, due to DL-tryptophan, 1690

Transplantation, epidermal, during chemical carcinogenesis, 2080

Triazenoimidazoles, transport and accumulation of, by L1210 cells, 135

Triethylene thiophosphoramide, crosslinking of DNA by, 1573

Tritium derivative method, in analysis of tRNA from brain and brain tumor, 658

3-Tritylthio-L-alanine, pharmacokinetics of, 1908

tRNA

alanine-specific, stimulation of hemoglobin synthesis by, 694

alkylation of, by enzymes from various liver tissues, 617

from brain and brain tumor, analysis of, using tritium derivative method, 658

from Morris 5123C hepatoma, 656 genetically altered, in *Escherichia coli*, 663

in animal cells, modifications and synthesis of, 688

in brain tumors, 605

in growing and resting adult and embryonic tissues, and in various oncogenic systems, 621

isoaccepting, in mammalian differentiated cells and tumor tissues, 639

isoaccepting phenylalanine, patterns of, in leukemia and lymphoma, 647

methionine, in hemoglobin synthesis, 701 methylating enzymes of, influence of latent virus on, 710

methylation of, in cell cultures, 609

in growing and resting adult and embryonic tissues, and in various oncogenic systems, 621

regulation of, in neoplastic mammary cells, 644

modification of, in differentiation and neoplasia, 591

modified bases and, 675

of embryonic tissue, 637

of Escherichia coli, function of 5-methyluridine in, 706

phenylalanine, response to recognition by phenylalanyl-tRNA synthetase, 671

seryl, changes in, during estrogen-induced phosvitin synthesis, 684

codon responses of, 697

specificity in mammalian tissues, 697 synthesis and modification of, 667

tRNA methylase

activity, in hepatomas, 774, 1069 in liver, 1069

altered patterns of, in Marek's disease tumors, 613

capacity in ascites tumor cells, 561

in brain tumors, 605

inhibitors of, 633

in normal and virus-transformed cells, 451 malignant transformation and, 630

modulation of, agents of, 633

tRNA synthetase, 671, 679

Trout, hepatoma growth in, methyl malvalate and methyl sterculate promotion of, 960

DL-Tryptophan, transitional cell hyperplasia of bladder due to, 1690

Tubercidin, cytotoxic differences between methyl ester of tubercidin-5'-phosphate and, 1923

Tumor(s). See also specific type of tumor; for example, Adenocarcinoma and Brain tumors.

adenovirus type 12-induced, immunity against, antibodies blocking, 997

cell membrane of, phospholipid in, 27 cycasin-induced, transplantability of, 283 energy expenditure in, 98

experimental, growth rates of, nucleolar morphology and, 789

from virus-transformed cells, tRNA methylases in, 451

Gross antigen in, 23

growth of, in allogeneic mice, effects of L-asparaginase on, 114

induced by phorbol and phorbol esters, in skin, 1074

in Marek's disease, altered tRNA methylase patterns in, 613

isografts of, from tumor-bearing mice, immunity to, 734

nucleolar morphology in, cell proliferation kinetics and, 789

thymidine labeling index in, effectiveness of 5-fluorouracil and, 448

X-irradiation of, cell proliferation kinetics of, 1279

Tumor cells

cultured, lipid metabolism in, 91 experimental, protein and nucleic synthesis in, effect of ricin on, 921

exposed to antisera to nerve growth factor, histology and ultrastructure of, 1483 growth of, deficiency of essential fatty acids and, 91

polycation-treated, 373

surfaces of, binding sites, for concanavalin A on, 2072

for wheat germ agglutinin on, 2072

Tumor grafts, local cellular reaction to, after treatment with plant polysaccharides, 1590

Tumor tissues, isoaccepting tRNA's in, 639

24th Annual Symposium on Fundamental

Cancer Research, announcement
of, 72

Tyrosine aminotransferase induction, in hepatomas and liver, 1580

Ultrastructure study(ies) of cytomegalovirus from paraganglioma, 542

of L-cell and macrophage interaction, 2059

of mammary adenocarcinoma, 2148

of mammary gland mitochondria, 2148

of mesenchymal neoplasia, in renal cortex, induced by dimethylnitrosamine, 337, 348

of renal adenocarcinoma, induced by dimethylnitrosamine, 366

of tracheobronchial epithelium, effects of benzo(a)pyrene on, 1977

of tumor cells exposed to antisera to nerve growth factor, 1483

Urethan, perinatal carciongenesis by, 2143,

Urine, polyamines in, in cancer patients,

Vascular invasion, in Hodgkin's disease, 1794

Vibrio cholerae neuraminidase, leukemia L1210 immunogenicity increased by, 2130

Vinblastine sulfate, effects on normal bone marrow, 185

Vinyl chloride, response of skin, lungs, and bones to, 516

Virion(s)

virus, antigens of, in mammary tumor, strain specificity in, 1473

visualizing of, in tumor tissue, 203

Virus. See also specific virus; for example, Avian leukosis virus.

erythrocyte as carrier of, in viral leukemias, 841

mammary tumor, localization of, in erythrocytes, 479

Virus-like particles, in cat mammary car-

cinomas, 1261

Virus virion, mouse mammary tumor, antigens to, strain specificity in, 1473

Vitamin A acid, effects on skin keratoacanthoma by, actinomycin D modification of, 1080

Wheat germ agglutinin, isolation of tumor cell surface binding sites for, 2072

Wheat straw hemicellulose, effects on local cellular reaction to tumor grafts, 1590

White blood cells. See Leukocyte(s).

Xenopus laevis, cancerous tissue transplantation in, 1594

X-irradiation, effect on mammary gland carcinoma lysosomal enzymes, 392

Zoxazolamine hydroxylase, induction by polycyclic compounds, 1087

Zymbal's gland, lack of N-hydroxy-2acetylaminofluorene sulfotransferase activity in, carcinogenesis and, 387

# Cancer Research

The Official Organ of the AMERICAN ASSOCIATION FOR CANCER RESEARCH, INC.

Volume 31 • January-December 1971

SIDNEY WEINHOUSE, Editor

MARGARET FOTI, Managing Editor

Editorial Assistants

TINA ANTONINI

BARBARA CANTARELLA

JILL FILLER

#### Associate Editors

RENATO BASERGA
NATHANIEL I. BERLIN
JOHN J. BIESELE
JOSEPH H. BURCHENAL
HARRIS BUSCH
KELLY H. CLIFTON
MAIMON M. COHEN
ALBERT J. DALTON
EUGENE D. DAY
VITTORIO DEFENDI
KENNETH B. DEOME
JOSEPH A. DIPAOLO
EMMANUEL FARRER

GILBERT H. FRIEDEL
HARRY V. GELBOIN
ABRAHAM GOLDIN
KARL E. HELLSTRÖM
RUSSELL HILF
ERICH HIRSCHBERG
ROBERT B. HURLBER
WERNER H. KIRSTEN
SAUL KIT
MARVIN KUSCHNER
LLOYD W. LAW
GERALD A LEPAGE

ALAN C. SARTORELLI
ALBERT SEGALOFF
MICHAEL B. SHIMKIN
HANS O. SJÖGREN
FRED L. SNYDER
JESSE L. STEINFELD
HOWARD M. TEMIN
ARTHUR C. UPTON
GEORGE WEBER
JOHN H. WEISBURGER
CHARLES E. WENNER
SUMNER WOOD, JR.

#### Editorial Advisory Board Members

CREED W. ABELL
SAMUEL ABRAHAM
JOSEPH C. ARCOS
JOHN C. BAILAR, III
M. EARL BALIS
W. RAY BRYAN
PAUL CALABRESI
WALLACE H. CLARK
BAYARD D. CLARKSON
ROGER DAOUST
CLYDE J. DAWE
SHELDON M. EPSTEIN

ALEXANDER FEFER
EMIL FREI, III
PHIL GOLD
ROBERT A. GOOD
HIDESABURO HANAFUSA
THEODORE S. HAUSCHK
CHARLES C. IRVING
IRVING S. JOHNSON
NATHAN KALISS
ALBERT S. KAPLAN
MONTAGUE LANE

ELIZABETH H. LEDUC
MORTIMER L. MENDELSOHN
ENRICO MIHICH
JOHN B. MOLONEY
DONALD L. MORTON
PHILIP O'B. MONTGOMERY, JR.
HERBERT F. OETTGEN
HARVEY M. PATT
G. BARRY PIERCE
ALAN S. RABSON
JAY S. ROTH

KATHERINE K. SANFORD
EMMA SHELTON
M. MICHAEL SIGEL
EDWARD A. SMUCKLER
SAM SOROF
HERMAN D. SUIT
WACLAW SZYBALSKI
VICTOR A. TRIOLO
BENJAMIN L. VAN DUUREN
EUGENE J. VAN SCOTT
ERNEST WYNDER
WASLEY D. YUSHOK

THE OFFICIAL ORGAN OF THE

AMERICAN ASSOCIATION FOR CANCER RESEARCH, INC.

## AMERICAN ASSOCIATION FOR CANCER RESEARCH, INC.

OFFICERS • April 1971—April 1972

President

EMIL FREI, III

Vice President

EMMANUEL FARBER

Secretary-Treasurer

HUGH J. CREECH

BOARD OF DIRECTORS

Term Expiring April 1972

EMIL FREI, III CHARLES A. NICHOL HENRY C. PITOT C. CHESTER STOCK

Term Expiring April 1973

EMMANUEL FARBER PETER C. NOWELL

Frank J. Rauscher, Jr. John J. Trentin

Term Expiring April 1974

MICHAEL J. BRENNAN ERICH HIRSCHBERG MICHAEL B. SHIMKIN JANE C. WRIGHT

Ex Officio

HUGH J. CREECH

SIDNEY WEINHOUSE

Note to members of the Association—Changes of address should be sent promptly to Dr. Hugh J. Creech, Institute for Cancer Research, Fox Chase, Philadelphia, Pennsylvania 19111. This will enable the Secretary to maintain an up-to-date file and will insure receipt of the journal by active members of the Association.

Copyright 1971 by Cancer Research, Inc.

## Contents of Volume 31, 1971

#### January, Number 1

- Regression and Persistence of Hyperplastic Hepatic Nodules Induced by N-2-Fluorenylacetamide and Their Relationship to Hepatocarcinogenesis.
- George W. Teebor and Frederick F. Becker.
   The Effect of "Exogenous" RNA on the Improvement of Syngeneic Tumor Immunity.
   Perry G. Rigby.
- 7 Immunization Schedules for Potent Rabbit Antisera to Leukemia L1210 Chung-Ai H. Kim and Arnold E. Reif.
- 12 Responsiveness of Two Urea Cycle Enzymes in Morris Hepatomas to Metabolic Modulations.

  Chung Wu, Jere M. Bauer, and Harold P. Morris
- 19 Differences in the Binding of 2-Acetylaminofluorene and Its N-Hydroxy Metabolite to Liver Nucleic Acids of Male and Female Rats. Charles C. Irving and Richard A. Veazey.
- 23 Study of the Gross Antigen in BALB Leukemias and Tumors of Different Origin. Fortuna Saal, Christiane Dosne Pasqualini, and S. L. Rabasa.
- 27 Study on the Proposed Role of Phospholipid in Tumor Cell Membrane. James K. Selkirk, J. C. Elwood, and H. P. Morris.

- 32 Chromosome Aberrations Induced in Human Leukocytes by the Antileukemic Antibiotic Adriamycin.

  B. K. Vig.
- 39 Purification and Properties of Alkaline Phosphatase from Rat Chloroma. Adel A. Yunis and Mary A. Gentry.
- 46 Isoleucine-mediated Regulation of Genome Replication in Various Mammalian Cell Lines.
  R. A. Tobey and K. D. Ley.
- 52 Biochemical Events Associated with Regression of 7,12 Dimethylbenz(a)anthracene induced Mammary Carcinomas after Ovariectomy. Russell Hilf, Harold Goldenberg, Inge Michel, Margot Gruenstein, David R. Meranze, and Michael B. Shimkin.
- 59 Effect of Insulin on DNA Synthesis and DNA Polymerase Activity in Organ Culture of Rat Mammary Carcinoma, and the Influence of Insulin Pretreatment and of Alloxan Diabetes. J. C. Heuson and N. Legros.
- 66 The in Vivo Effects of Arabinosylcytosine on the Cell Proliferation of Murine B16 Melanoma and Ehrlich Ascites Tumor. Felix D. Bertalanffy and M. H. Lindsay Gibson.
- 72 Announcements.
- 73 Instructions to Authors.

#### February, Number 2

- i Editorial
- 77 Breast Cancer in an Area of High Parity: São Paulo, Brazil. Antonio Pedro Mirra, Phillip Cole, and Brian MacMahon.
- 84 Daunorubicin (NSC 82151) in the Treatment of Advanced Childhood Lymphoblastic Leukemia. Barbara Jones, James F. Holland, Alan R. Morrison, Stanley L. Lee, Lucius F. Sinks, Janet Cuttner, Aaron Rausen, Faith Kung, Hans J. Pluss, Farid I. Haurani, Richard B. Patterson, Johannes Blom, E. Omer Burgert, Jr., John H. Moon, Louise Chevalier, Arthur Sawitsky, Maurice M. Albala, R. Jackson Forcier, Geoffrey Falkson, and Oliver Glidewell.
- 91 Lipid Metabolism in Cultured Cells: Growth of Tumor Cells Deficient in Essential Fatty Acids. J. Martyn Bailey and L. M. Dunbar.
- 98 Partition of Energy Expenditure between Host and Tumor. S. D. Morrison.

- 108 Comparison of the Mitochondrial Membrane Proteins in Rat Liver and Hepatomas. Lillie O. Chang, Carl A. Schnaitman, and Harold P. Morris.
- 114 Influence of L-Asparaginase on Antibody Production and Growth of Tumors in Allogeneic Mice.
  Moriji Miura, Kohei Kawashima, Tadaaki Uetani, Masami Hirano, Hisami Kakizawa, Ryuzo Ohno, Akimitsu Morita, Hiroshi Nishiwaki, and Kazumasa Yamada.
- 122 Prolonged Survival of Male-to-Female Skin Isografts and of Allografts from Normal Mice following Treatment of Recipient or Graft with Sera from Tumor-bearing Mice.

  Menachem R. Wexler, Margaret Kripke, and David W. Weiss.
- 127 Differentiation of Malignant to Benign Cells.
  G. Barry Pierce and Carol Wallace.
- 135 Transport and Accumulation of Triazenoimidazoles by L1210 Cells. David Kessel.

XUM

- 140 A Reevaluation of Nuclear and Nucleolar Changes Induced in Vitro by Actinomycin D. Louis Recher, Letty G. Briggs, and Nikko T. Parry.
- 152 Formation and Significance of 6-Methylthiopurine Ribonucleotide as a Metabolite of 6-Mercaptopurine. L. Lee Bennett, Jr., and Paula W. Allan
- 159 Nuclear Pockets Associated with the Nucleolus in Normal and Neoplastic Cells. E. Robert Burns, Bernard L. Soloff, Calvin Hanna, and Donald F. Buxton.
- 166 The Synergism between Radiation and Estrogen in the Production of Mammary Cancer in the Rat.
  - Albert Segaloff and William S. Maxfield.
- 169 The Effect of L-Asparaginase on Mitotic Activity during N-2-Fluorenylacetamide Hepatocarcinogenesis: Subpopulations of Nodular Cells. Frederick F. Becker and Kenneth M. Klein.
- 174 Ultrastructural Alterations within Hyperplastic Liver Nodules Induced by Ethionine.

  Leonard P. Merkow, Sheldon M. Epstein, Malcolm Slifkin, Emmanuel Farber, and Matias Pardo.
- 179 Identification of Three-Line Electron Spin Resonance Signal and Its Relationship to Ascites Tumors.
  T. Maruyama, N. Kataoka, S. Nagase, H. Nakada, H. Sato, and H. Sasaki.

- 185 Effects of Chemotherapeutic Agents on Normal Mouse Bone Marrow Grown in Vitro.

  Clarence H. Brown, III, and Paul P. Carbone.
- 191 The Effects of 1,3-Bis(2-chloroethyl)-1-nitrosourea on Survival and Cell Progression in Chinese Hamster Cells.
  S. C. Barranco and R. M. Humphrey.
- 196 Differences in Tumor Types and Organ Susceptibility in BALB/c and RF Mice following Dimethylnitrosamine and Diethylnitrosamine. N. K. Clapp, R. L. Tyndall, and J. A. Otten.
- 199 Brief Communication:

  Isolation of Enzymatically Active Nuclei from Epithelial Cells of the Trachea.

  Joseph M. Smith. Michael B. Sporn.
  - Joseph M. Smith, Michael B. Sporn, Daniel M. Berkowitz, Tsuyoshi Kakefuda, Emily Callan, and Umberto Saffiotti.
- 203 Letter to the Editor:
  - Fixation in Hyperosmotic Solutions as a Possible Aid in Visualizing Virions in Tumor Tissue.
    - Richard Siegler, Iris Hagmann, and Asher D. Kelman.
- 206 Announcements.
- 207 Errata.

## March, Number 3

- 209 Annulate Lamellae in Cultured Human Neuroblastoma Cells.
  Milton N. Goldstein.
- 214 The Lymphocyte and Human Lung Cancers.

  Arnis Richters, Russell P. Sherwin, and Valda

  Pichters
- 223 Clinical Studies with 1-(2-Chloroethyl)-3-cyclohexyl-1-nitrosourea (NSC 79037).
  Heine H. Hansen, Oleg S. Selawry, Franco M. Muggia, and Michael D. Walker.
- 228 Metabolic Effects of Some Tumor-inhibitory Pyridine Carboxaldehyde Thiosemicarbazones. Barbara A. Booth, E. Colleen Moore, and Alan C. Sartorelli.
- 235 Inhibition of Deoxyribonucleotide Synthesis by Pyridine Carboxaldehyde Thiosemicarbazones. E. Colleen Moore, Barbara A. Booth, and Alan C. Sartorelli.
- 239 The Acute Effect of Aminoazobenzene and Some of Its Derivatives on RNA Polymerase Activity in Isolated Rat Liver Nuclei. Sing-Yung Wu and Edward A. Smuckler.
- 248 Polyamine Accumulation and Biosynthesis in a Mouse L1210 Leukemia.

  Diane H. Russell and Carl C. Levy.

- 252 Synthesis and Storage of Epithelial-Epidermal Growth Factor in Submaxillary Gland.

  Roger W. Turkington, James L. Males, and Stanley Cohen.
- 257 The Effect of Adrenalectomy and High-Protein Diet on Tumor-altered Albumin Metabolism.

  William R. Jewell and Larry Hunter.
- 260 Evidence for the Rapid Decrease in Leukemogenic Potential of Rauscher Leukemia Virus in Cell Culture.
  Jeffrey Schlom, John B. Moloney, and Vincent
- Groupé.

  265 Nucleic Acid Metabolism of an Estrogen-dependent Carcinoma of the Adrenal Cortex of the
  - Lyle W. Redman, M. R. Garland, M. Thomson, T. Ng, and J. F. Richards.
- 270 Influence of Liver Regeneration on the Loss of Fluorenylacetamide Derivative Bound to Liver DNA.
  - Hanspeter Witschi, Sheldon M. Epstein, and Emmanuel Farber.
- 274 Nucleoside Deaminase Activity in Viral Leukemia.
  - Ivan K. Rothman, V. G. Malathi, and Robert Silber.

- 277 Comparison of Cytotoxicity of Hydroxyurea in Normal and Rapidly Proliferating Epidermis and Small Intestine in Mice. Henry Hennings and Finn Devik.
- 283 Carcinogenic Effects of Cycasin in Syrian Golden Hamsters and the Transplantability of Induced Tumors.

  Iwao Hirono, Kotaro Hayashi, Hideki Mori, and Toshio Miwa.
- 288 "Benign Metastasizing Goiter" of Cohnheim: An Experimental Study with the Transplantable Thyroid Tumor of the Rat.

  J. Matovinovic, R. H. Nishiyama, A. Lalli, and G. Poissant.
- 297 Hybridization of Actinomycin D- and Amethopterin-resistant Chinese Hamster Cells in Vitro. Jael S. Sobel, Alberta M. Albrecht, Hansjörg Riehm, and June L. Biedler.
- 308 Cytogenetic Studies of EB Virus-positive and EB Virus-negative Lymphoblastoid Cell Lines.

  Milan Macek, Eddie H. Seidel, Raymond T.

  Lewis, J. Pierre Brunschwig, Ira Wimberly, and Matilda Benyesh-Melnick.
- 322 Evaluation of a Humoral Factor in Liver Regeneration Utilizing Liver Transplants.

  Bernard Fisher, Patricia Szuch, and Edwin R.

  Fisher.

- 332 Selective Metabolic Effects of 1,3-Bis(2-chloroethyl)-1-nitrosourea upon de Novo Purine Biosynthesis.
  Donald P. Groth, James M. D'Angelo, William R. Vogler, Elizabeth S. Mingioli, and Britt Betz.
- 337 Ultrastructural Study of the Development of Interstitial Lesions Leading to Mesenchymal Neoplasia Induced in the Rat Renal Cortex by Dimethylnitrosamine.

  G. C. Hard and W. H. Butler.
- 348 Ultrastructural Analysis of Renal Mesenchymal Tumor Induced in the Rat by Dimethylnitrosamine.
  G. C. Hard and W. H. Butler.
- 366 Ultrastructural Aspects of Renal Adenocarcinoma Induced in the Rat by Dimethylnitrosamine.
  G. C. Hard and W. H. Butler.
- 373 Polycation-treated Tumor Cells in Vivo and in Vitro.
  Harold Moroson.
- 381 Announcements.

#### April, Number 4

- 383 Prospective Study of Dog Bite and Childhood Cancer.
  Frank D. Norris, Edwin W. Jackson, and Edward Aaron.
- 387 Lack of N-Hydroxy-2-acetylaminofluorene Sulfotransferase Activity in the Mammary Gland and Zymbal's Gland of the Rat.
  Charles C. Irving, Douglas H. Janss, and Laretta T. Russell.
- 392 Effect of X-irradiation on the Functional Status of Lysosomal Enzymes of Mouse Mammary Gland Carcinomas.

  Jose E. Paris and David Brandes.
- 402 Kinetics of Proliferation, Migration, and Death of L1210 Ascites Cells. Kurt G. Hofer and Maria Hofer.
- 409 Cellular Resistance to Daunomycin in Chinese Hamster Cells in Vitro.

  Hansjörg Riehm and June L. Biedler.
- 413 A Proposed Model of the Interaction of 4-Nitroquinoline 1-Oxide with DNA. J. S. Paul, P. O'B. Montgomery, Jr., and J. B. Louis.
- 420 The Immunosuppressive Effects of Long-Term Combination Chemotherapy in Children with Acute Leukemia in Remission.

  Luis Borella and Robert G. Webster.

- 427 Changes in Hybridizable Nuclear RNA during the Neoplastic Development of Mouse Mammary Cells.

  Roger W. Turkington.
- 433 The Preparation of Soluble DNA Methylase from Normal and Regenerating Rat Liver.

  N. Ronald Morris and Katherine D. Pih.
- 441 A Human Leukocyte Culture with an Unusual Cytoplasmic Envelopment of Herpes-type Particles.

  Satish Chandra, Wlo Korol, Richard P. Ames, David P. A. Fabrizio, and Erling M. Jensen.
- 448 The Relation of Thymidine Labeling Index in Human Tumors in Vitro to the Effectiveness of 5-Fluorouracil Chemotherapy.

  William H. Wolberg and Fred J. Ansfield.
- 451 Transfer RNA Methylases of Normal Cells, Virus-transformed Cells, and Tumors Derived from Transformed Cells.

  Seitoku Fujioka, Robert C. Ting, and Robert C. Gallo.
- 457 Methotrexate and Cytosine Arabinoside Modulation of Thymidylate Synthetase Activity in CCRF-CEM Cells.

  DeWayne Roberts and Ellen V. Loehr.

- 463 Nucleic Acid Metabolism in Proliferating and Differentiating Colonic Cells of Man and in Neoplastic Lesions of the Colon. Frank Troncale, Ralph Hertz, and Martin Lipkin.
- 468 N-Acetylation of Arginine-rich Hepatoma Histones.
  - Paul Byvoet and Harold P. Morris.
- 471 Reactivities of the Carcinogens, N-Hydroxy-2fluorenylacetamide and N-Hydroxy-3-fluorenylacetamide, with Tissue Nucleophiles. Franklin J. Zieve and H. R. Gutmann.
- 477 Possible in Situ Activation of Mycophenolic Acid by β-Glucuronidase.
   M.J. Sweeney, D. H. Hoffman, and G. A. Poore.
- 479 Brief Communications:

Localization of Mammary Tumor Virus inside Red Blood Cells of Mice. S. Nandi and Sandra Haslam.

- 482 Announcement.
- 482 Errata.

## May, Number 5

- i Letter to the Editor.
- 483 Controlling Factors in Urethan Carcinogenesis in Mice: Effect of Enzyme Inducers and Metabolic Inhibitors. Richard S. Yamamoto, John H. Weisburger, and Elizabeth K. Weisburger.
- 487 Isolation and Partial Characterization of a Glyceraldehyde 3-Phosphate Dehydrogenaseinactivating Factor from Ehrlich Ascites Tumor Cells.
  - Francisco P. Mamaril and Saul Green.
- 491 Absence of an Effect of Partial Hepatectomy on Aflatoxin B<sub>1</sub> Carcinogenesis.
  Adrianne E. Rogers, Nora S. Kula, and Paul M. Newberne.
- 496 Effect of Immune Status on the Development of Artificially Induced Metastases in Different Anatomical Locations.
  Jan Vaage, Kuang Chen, and Suzanne Merrick.
- 501 Effects of Some Fatty Acid Esters on the Viability and Transplantability of Ehrlich Ascites Tumor Cells.
  Akiko Kato, Kunio Ando, Gakuzo Tamura.
  - Akiko Kato, Kunio Ando, Gakuzo Tamura, and Kei Arima.
- 505 Effect of Polyenic Antibiotics on Ehrlich Ascites and Novikoff Hepatoma Cells.
  Bruno Modovì, Roberto Strom, Alessandro Finazzi Agrò, Paola Caiafa, Pasquale De Sole, Argante Bozzi, Giuseppe Rotilio, and Alessandro Rossi Fanelli.
- 510 Some Properties of Substrains of L-Cells with a Decreased Sensitivity to Bis(2-chloroethyl) sulfide.
  - I. G. Walker and B. D. Reid.
- 516 Oncogenic Response of Rat Skin, Lungs, and Bones to Vinyl Chloride. P. L. Viola, A. Bigotti, and A. Caputo.
- 523 In Vitro Test for Sensitivity of Leukemic Cells to L-Asparaginase.

  Robert Schrek and William C. Dolowy.
- 527 Glucose and Acetate Utilization by Hyperplastic, Alveolar Nodule Outgrowths and Adenocarcinomas of Mouse Mammary Gland.
  J. C. Bartley, Hope McGrath, and S. Abraham.

- 538 Bile Acid Involvement in Azo Dye Carcinogenesis.
  Jack C. Holland and James D. Spain.
- 542 Ultrastructural and Biological Properties of a Cytomegalovirus Rescued from a Human Paraganglioma.

  Ursula Heine, Joan Kondratick, Dharam V. Ablashi, Gary R. Armstrong, and Albert J. Dalton.
- 550 Behavior of Opposing Pathways of Thymidine Utilization in Differentiating, Regenerating, and Neoplastic Liver.

  John A. Ferdinandus, Harold P. Morris, and George Weber.
- 557 Regulation of Adenyl Cyclase in Hepatomas of Different Growth Rates. Donald O. Allen, John Munshower, Harold P. Morris, and George Weber.
- 561 Comparative Transfer RNA Methylase Capacity in Mouse Ascites Tumors and in Their Derived Tumorigenic and Nontumorigenic Cell Cultures.
  R. T. Dell'Orco, D. G. R. Blair, and J. F. Morgan
- 566 Distinctive Properties of Ferritin from the Reuber H-35 Rat Hepatoma.

  Joseph C. K. Lee and Goetz W. Richter.
- 573 Gastric Tumors and Lung Lesions in the Rat following the Intragastric or Intraperitoneal Administration of N-(β-Chloroethyl)-N-nitrosourethan.
  R. Schoental and J. P. M. Bensted.
- 577 Some Biochemical and Cytogenetic Properties of Rat Thyroid Tumors.

  Chung Wu, Abdul A. Al-Saadi, Ronald C. Ling, and Karen L. McKinnie.
- 583 The Effects of β-2'-Deoxythioguanosine on Survival and Progression in Mammalian Cells. S. C. Barranco and R. M. Humphrey.
- 587 Quantitative Study of Vascularity in Walker Carcinoma 256.

  Chang W. Song and Seymour H. Levitt.

			Contents of Volume 31, 1971
591	Symposium: Transfer RNA and Transfer RNA	658	Application of a Tritium Derivative Method
	Modification in Differentiation and Neoplasia.		to Human Brain and Brain Tumor Transfer
592	Program.		RNA Analysis.
594	List of Participants.		Kurt Randerath.
595	Program Committee.	662	Introduction to the Second Part of the Sym-
596	Introduction.		posium.
500	Ernest Borek.		Frederick C. Neidhardt.
598	Introductory Remarks.	663	Studies on Genetically Altered Transfer
599	Carl G. Baker.		RNA Species in Escherichia coli.
399	The Possible Role of Nucleic Acid Methylases in the Induction of Cancer.	447	John Carbon and Craig Squires.
	P. N. Magee.	667	Studies on Synthesis and Modification of Transfer RNA.
605	Transfer RNA and Transfer RNA Methyl-		Malcolm L. Gefter and Elizabeth Bikoff.
000	ase in Human Brain Tumors.	671	Response of Modified Phenylalanine Trans-
	Giuseppe L. Viale.	0/1	fer RNA to Recognition by Phenylalanyl
609	In Vitro Transfer RNA Methylation in		Transfer RNA Synthetase.
	Paired Neoplastic and Nonneoplastic Cell		M. P. Stulberg and Lee R. Shugart.
	Cultures.	675	Modified Bases and Transfer RNA Func-
	R. Raymond Gantt.		tion.
613	Altered Transfer RNA Methylase Patterns		Alan Peterkofsky, Marcia Litwack, and
	in Marek's Disease Tumors.		Jane Marmor.
	Lewis R. Mandel, Bruce Hacker, and T. A.	679	Tryptophanyl Transfer RNA Synthetase
	Maag.		from Lymphocytes of Human Chronic
617	The Alkylation of Transfer RNA by En-		Lymphocytic Leukemia.
	zymes from Embryonic, Neoplastic, and		Howard P. Tchou, Alice J. Classin, and Karl
	Ethionine-treated Liver Tissues.  R. L. Hancock.	684	H. Muench.
621	Transfer RNA and Transfer RNA Methyla-	084	Seryl Transfer RNA Changes during Estro- gen-induced Phosvitin Synthesis and a
021	tion in Growing and "Resting" Adult and		Unique Seryl Transfer RNA Modification.
	Embryonic Tissues and in Various On-		Merton R. Bernfield and Pekka H.
	cogenic Systems.		Mäenpää.
	Robert C. Gallo.	688	Transfer RNA Modifications and Synthesis
630	Initiation of Malignant Transformation and		in Animal Cells.
	the Significance of Changes in Transfer		M. W. Taylor, S. A. S. Volkers, B. K. Choe,
	RNA Methylase Enzymes.		and J. G. Zeikus.
	David J. Pillinger and Ray Wilkinson.	694	Stimulation of Hemoglobin Synthesis in
633	Agents of Modulation of the Transfer RNA		Developing Chick Blastodisc Blood Islands
	Methylases.		by a Minor Alanine-specific Transfer RNA.
	Sylvia J. Kerr, Opendra K. Sharma, and	<b></b>	S. D. Wainwright.
(27	Ernest Borek.	697	Transfer RNA Specificity in Mammalian
637	Transfer RNA's of Embryonic Tissue.  Owen M. Rennert.		Tissues and Codon Responses of Seryl
639	Isoaccepting Transfer RNA's in Mam-		Transfer RNA.  Dolph Hatfield, Franklin H. Portugal, and
039	malian Differentiated Cells and Tumor		Mary Caicuts.
	Tissues.	701	Methionine Transfer RNA <sub>F</sub> : The Initiator
	Wen-Kuang Yang.	,	Transfer RNA for Hemoglobin Biosynthesis.
644			W. French Anderson and David A. Shafritz.
	tion in Normal and Neoplastic Mammary	704	Physiological Activity of Derivatives of a
	Cells.		Modified Component of Transfer RNA,
	Roger W. Turkington.		N-(Nebularin-6-ylcarbamoyl)-L-threonine.
647			Ross H. Hall, Syed N. Alam, C. M. Chen,
	Transfer RNA in Human Leukemia and		William H. Dyson, C. I. Hong, and Girish
1	Lymphoma.		B. Chheda.
	Arnold Mittelman.	706	Analysis of 5-Methyluridine Function in the
651			Transfer RNA of Escherichia coli.
	I. Bernard Weinstein, Dezider Grunberger,		Glenn R. Björk and Frederick C. Neidhardt.
(2)	Shinji Fujimura, and Louis M. Fink Studies on Transfer RNA <sup>Phe</sup> from Morris	710	Influence of a Latest Visco T. C.
656	5123C Hepatoma.	/10	Influence of a Latent Virus on Transfer RNA-methylating Enzymes.
	Fabio Gonano and Giuseppe Pirrò.		Elsie Wainfan
	and Conune und Chiseppe I into.		Lisie wainjan

KUM

- 716 Summary of Symposium on Transfer RNA and Transfer RNA Modification in Differentiation and Neoplasia.

  P. C. Zamecnik.
- 722 Books Received.
- 724 Announcements.

#### June, Number 6

- i Resolution of the Board of Directors of the AACR.
- ii Letter to the Editor.
- 725 Effect of Sex on the Development of Melanoma in Hybrid Fish of the Genus Xiphophorus.

  Michael J. Siciliano, Alfred Perlmutter, and Edward Clark.
- 730 Effect of Ozone on Benzpyrene Hydroxylase Activity in the Syrian Golden Hamster. Michael S. Palmer, Donald H. Swanson, and David L. Coffin.
- 734 The Adoptive Transfer of Concomitant Immunity to Murine Tumor Isografts with Spleen Cells from Tumor-bearing Animals.

  Peter J. Deckers, Bradford W. Edgerton, Bernard S. Thomas, and Yosef H. Pilch.
- 743 Enzyme Patterns in a Group of Transplantable Mouse Hepatomas of Different Growth Rates. E. Bresnick, E. D. Mayfield, Jr., A. G. Liebelt, and R. A. Liebelt.
- 752 Light Microscopic Observations of Morris Hepatomas.
  Z. Hruban, H. P. Morris, Y. Mochizuki, D. R. Meranze, and A. Slesers.
- 763 Microbodies of Morris Hepatomas. Y. Mochizuki, Z. Hruban, H. P. Morris, A. Slesers, and E. L. Vigil.
- 774 Transfer RNA Methylase Activity in Normal Rat Liver and Some Morris Hepatomas.

  Bertrum Sheid, Susan M. Wilson, and Harold P. Morris.
- 778 Activation of the Carcinogen, N-Hydroxy-2-fluorenylbenzenesulfonamide, by Desulfonylation to N-2-Fluorenylhydroxylamine in Vivo.

  D. Malejka-Giganti, H. R. Gutmann, R. E. Rydell, and Y. Yost.
- 789 Nucleolar Morphology, Nucleic Acid Syntheses, and Growth Rates of Experimental Tumors.
  Milan Potmesil and Anna Goldfeder.
- 798 Inhibition of Migration of Human Autogenous and Allogeneic Leukocytes by Extracts of Patients' Cancers. William H. Wolberg.
- 803 Host Response in Spontaneous Regression of Murine Leukemia.

  Marvin A. Rich and Rodney Clymer.
- 808 Survey of Some Enzyme Patterns in Transplantable Reuber Mouse Hepatomas.

  Robert D. Reynolds, Van R. Potter, Henry C. Pitot, and Melvin D. Reuber.
- 813 Homofolate and Tetrahydrohomofolate, Inhibitors of Purine Synthesis.
  Maire T. Hakala.

- 817 Regression of Prolactin-dependent Rat Mammary Carcinoma in Response to Antihormone Treatment.

  Thomas P. Butler and Olof H. Pearson.
- 821 Cell Proliferation and Tumor Growth in Hepatomas 3924A.

  William B. Looney, Audrey A. Mayo, Martha Y. Janners, Josephine G. Mellon, Phillip Allen, David Salak, and Harold P. Morris.
- 826 A Spontaneous Mesenchymal Cell Neoplasm in the Adult Newt, Diemictylus viridescens.

  E. Robert Burns and Harold J. White.
- 830 The Radiation Response of Human Malignant Melanoma Cells Grown in Vitro.
  S. C. Barranco, M. M. Romsdahl, and R. M. Humphrey.
- 834 Inhibition of Immune Responses by Glutamine Antagonism: Effect of Azotomycin on Lymphocyte Blastogenesis.

  Evan M. Hersh and Barry W. Brown.
- 841 The Erythrocyte as Virus Carrier in Friend and Rauscher Virus Leukemias.

  Christopher A. Reilly, Jr., and Gerd T. Schloss.
- 847 Engagement of Cytoplasmic Polyribosomes in the Synthesis of Ribosomal Proteins in Eukaryotic Cells.

  Vincenzo P. Chiarugi.
- 851 Use of Mouse Vaginal and Rectal Epithelium to Screen Antimitotic Effects of Systemically Administered Drugs.

  Richard H. Bonder and Eugene J. Van Scott.
- 854 Effect of Hypothalamic Lesions on the Genesis of Spontaneous Mammary Gland Tumors in the Mouse.
  J. E. Bruni and D. G. Montemurro.
- 864 Phytohemagglutinin Unresponsiveness in Mouse Spleen Cells Induced by Methylcholanthrene Sarcomas.

  William H. Adler, Tomoo Takiguchi, and
- 868 Melanotic and Amelanotic Melanomas in Xiphophorin Fish.

  Jürgen Vielkind, Ursula Vielkind, and Fritz Anders.

Richard T. Smith.

- 876 Temporal Changes in DNA and RNA Synthesis in the Regenerating Liver of Hydrocortisonetreated Rats.
  Arturo J. Rizzo, Paul Heilpern, and Thomas E. Webb.
- 882 Studies on Cellular and Humoral Immunity to Tumor-specific Antigens in Polyoma Virus-induced Tumors of Rats.

  Surjit K. Datta and Michel Vandeputte.

- 890 Tumor-specific Immunity in the Course of Primary Polyoma and Rous Tumor Development in Intact and Immunosuppressed Rats.

  Hans O. Sjörgren and Kirstine Borum.
- 901 Metabolism of Cyclophosphamide by Rat Hepatic Microsomes. N. E. Sladek.
- 909 In Vivo Inhibition of Pyrimidine Catabolism by 5-Cyanouracil. Glenn A. Gentry, Paul A. Morse, Jr., and Marion T. Dorsett.
- 913 Histochemical Activity of Alkaline and Acid Nucleases in the Rat Liver Parenchyma during N-Nitrosomorpholine Carcinogenesis. Henryk S. Taper, Leonard Fort, and Jean-Marie Brucher.
- 917 Letter to the Editor:

  Susceptibility of the Guinea Pig to Chemical Carcinogenisis.

  Mary F. Argus.
- 919 Announcements.
- 919 Erratum.

#### July, Number 7

- 921 Effect of Crystalline Ricin on the Biosynthesis of Protein, RNA, and DNA in Experimental Tumor Cells.

  Jung-Yaw Lin, Kang Liu, Chi-Ching Chen, and Ta-Cheng Tung.
- 925 Immune Cytolysis in Relation to the Growth Cycle of Chinese Hamster Cells. William U. Shipley.
- 930 The Occurrence of a Serum Fetal α<sub>1</sub> Protein in Developing Mice and Murine Hepatomas and Teratomas.
  Brenda Kahan and Lawrence Levine.
- 937 Inhibition of Growth of Ehrlich Ascites Tumors in ICR/Ha Swiss Mice by Isocyanates.

  Gilbert E. Moos, John A. Maguire, Tariq Z. Kitchlew, William A. Swyers, Patricia Z. Volk, Jerry R. Croft, Michael J. Quigley, Janis R. Fries, Nanette A. Oser, and Linda J. Anderson.
- 942 L-Asparaginase in the Treatment of Neoplastic Diseases in Children.
  N. Jaffe, D. Traggis, L. Das, W. C. Moloney, H. W. Hann, B. S. Kim, and R. Nair.
- 950 Antitumor and Antimitogenic Properties of cis-Dichloro(dipyridine)platinum(II).

  Glen R. Gale, Jerry A. Howle, and Ernest M. Walker, Jr.
- 953 A Transmissible Feline Fibrosarcoma of Viral Origin.

  Susan K. McDonough, Steen Larsen, Robert S. Brodey, Neale D. Stock, and William D. Hardy, Jr.
- 957 Test for Carcinogenic Activity of Benzoquinones in Long-Evans Rats.
  M. B. Shimkin, M. Gruenstein, and D. R. Meranze.
- 960 Promotion of Aflatoxin-induced Hepatoma Growth in Trout by Methyl Malvalate and Sterculate. D. J. Lee, J. H. Wales, and R. O. Sinnhuber.
- 964 Urinary and Biliary Excretion of the 2,4-Diaminoquinazoline Antifolate, Methasquin, in Rats and Dogs.

  Jeanne I. Rader, Dorris J. Hutchison, Jane E. Sodergren, Pedro Vidal, and Frederick S. Philips.

- 970 Rapid Detection of Mutagens and Carcinogens. Eve E. Slcter, Marvin D. Anderson, and Herbert S. Rosenkranz.
- 974 The Influence of Age on Chronic Remittent Friend Disease.

  Peter J. Dawson and A. Howard Fieldsteel.
- 981 Occurrence of Antibodies to the T Antigen of Chicken Embryo Lethal Orphan Virus.

  Kenneth J. McCormick, Jeffrey P. Anderson,
  Wayne A. Stenback, and John J. Trentin.
- 985 Rate-limiting Steps in the Interconversion of Purine Ribonucleotides in Ehrlich Ascites Tumor Cells in Vitro.
  G. W. Crabtree and J. Frank Henderson.
- 992 Effects of Bleomycin on Nuclear DNA in Transplantable VX-2 Carcinoma of Rabbit. Masaaki Nagatsu, Takashi Okagaki, Ralph M. Richart, and Adrian Lambert.
- 997 Demonstration and Identification of Cytotoxic Antibodies and Antibodies Blocking the Cellmediated Antitumor Immunity against Adenovirus Type 12-induced Tumors. Jaro Ankerst.
- 1004 Dihydrouracil Dehydrogenase Activity in Normal, Differentiating, and Regenerating Liver and in Hepatomas.
  Sherry F. Queener, Harold P. Morris, and George Weber.
- 1010 Isolation of a Non-focus-forming Agent from Strain MC29 Avian Leukosis Virus.
  A. J. Langlois, L. Vepřek, D. Beard, R. B.
  Fritz, and J. W. Beard.
- 1019 Morphological Studies on Herpesvirus saimiri in Subhuman and Human Cell Cultures.

  Ursula Heine, Dharam V. Ablashi, and Gary R. Armstrong.
- 1030 Correlation of Nucleolini with Fine Structural Nucleolar Constituents of Cultured Normal and Neoplastic Cells. Robert Love and Ramon Z. Soriano.
- 1038 Loss of a Normal Colonic Membrane Antigen in Human Cancers of the Colon. Pierre Burtin, Sabine von Kleist, and Marie-Claude Sabine.

- 1042 The Morphological Effects of Estrogen Removal on an Estrogen-dependent Adrenocortical Carcinoma in Rats.

  Thomas M. Nichols.
- 1051 Effects of Ergocornine and Ergocryptine on Growth of 7,12-Dimethylbenzanthracene-induced Mammary Tumors in Rats. Eldon E. Cassell, Joseph Meites, and Clifford W. Welsch.
- 1054 Brief Communication:

  Regan Isoenzyme: A Carcinoplacental

  Antigen<sup>rn</sup>.

William H. Fishman, Norma R. Inglis, and Sidney Green.

- 1058 Special Announcement: NCI Chemical Carcinogenesis Contract Program.
- 1059 Announcement from the Editor.
- 1059 Announcements.
- 1059 Erratum.

#### August, Number 8

- 1061 Effect of Bacillus Calmette-Guérin on Mammary Tumor Formation and Cellular Immunity in Dimethylbenz(a)anthracene-treated Rats.

  Willy F. Piessens, Rudolf Heimann, Nicole Legros, and Jean-Claude Heuson.
- 1066 The Effects of MP Virus Infection in Lymphoma.

  John Horton, John E. Hotchin, Kenneth B.

  Olson, and J. N. P. Davies.
- 1069 Transfer RNA Methylase Activity in Normal Monkey Liver and in Carcinogen-induced Hepatoma.
  T. Phillip Waalkes, Richard H. Adamson, Roger W. O'Gara, and Robert C. Gallo.
- 1074 Tumor-promoting Activity of Phorbol and Four Diesters of Phorbol in Mouse Skin. William M. Baird and R. K. Boutwell.
- 1080 Modification of the Effect of Vitamin A Acid on the Skin Tumor Keratoacanthoma by Applications of Actinomycin D. Lawrence Prutkin.
- 1087 On the Association between Photodynamic and Enzyme-inducing Activities in Polycyclic Compounds. Samuel S. Epstein, N. P. Buu-Hoi, and Do-Phuoc Hien.
- 1095 Quantitative Aspects of the Binding of Folic Acid by Folate Antiserum.

  Sheldon P. Rothenberg and Frances Gizis.
- 1110 Ferritin-labeled Antibody Studies of Feline C-type Particles.

  Lyndon S. Oshiro, John L. Riggs, Dee O. N. Taylor, Edwin H. Lennette, and Robert J. Huebner.
- 1111 Effect of Fluphenazine HCl on R3230AC Mammary Carcinoma and Mammary Glands of the Rat.
  Russell Hilf, Carlton Bell, Harold Goldenberg, and Inge Michel.
- 1118 Morphological, Oncogenic, and Karyological Characteristics of Syrian Hamster Embryo Cells Transformed in Vitro by Carcinogenic Polycyclic Hydrocarbons. J. A. DiPaolo, R. L. Nelson, and P. J. Donovan.

- 1128 Electron Microscopic Localization of Acridine Orange Binding to DNA within Human Leukemic Bone Marrow Cells. John H. Frenster.
- 1134 The Essentiality of Decyclization of Pyrrolidonecarboxylic Acid Prior to Utilization in Protein Biosynthesis.
  E. Ann Rush, Carla L. McLaughlin, and Alan Solomon.
- 1140 Time Pattern of the Antileukemic Effect of Graft-versus-Host Reaction in Mice.

  Milivoj Boranić and Ivana Tonković.
- 1148 In Vivo Human-Hamster Somatic Cell Fusion Indicated by Glucose 6-Phosphate Dehydrogenase and Lactate Dehydrogenase Profiles. David M. Goldenberg, Raj D. Bhan, and Rose A. Pavia.
- 1153 Humoral Antibodies in the Host Directed against Tumor Cells after Suppression of Ascites Tumor by Heteroimmune Sera.

  V. Srinivasa Rao and M. Sirsi.
- 1159 Observations on the Plasma Amino Acids of Patients with Acute Leukemia.

  Daniel Rudman, W. Ralph Vogler, Carolyn H. Howard, and Glynda G. Gerron.
- 1166 Isozymes in Cancer. Report of the Symposium "Isozymes and Enzyme Regulation in Cancer," San Diego, California, March 15-17, 1971. Sidney Weinhouse.
- 1168 Special Announcement: Annual Meeting of the American Association for Cancer Research, Inc.
- 1169 Special Announcement: NCI Chemical Carcinogenesis Program.
- 1170 Announcement from the Editor.
- 1171 Announcements.

- 1173 Cancer Chemotherapy is Many Things: G. H. A. Clowes Memorial Lecture.

  Howard E. Skipper.
- 1181 Elevation of Thymidylate Synthetase Activity in CCRF-CEM Cells.

  DeWayne Roberts and Ellen V. Loehr.
- 1188 DNA Content of Mastocytoma Cells in Cell Culture after Inhibition of RNA Synthesis with 6-Azauridine.

  Hans R. Burki.
- 1192 Early Appearance of Embryonic α-Globulin in Rat Serum during Carcinogenesis with 4-Dimethylaminoazobenzene.

  Hiroyuki Watanabe.
- 1195 Some Biochemical Changes Preceding Regression of 7,12-Dimethylbenz(a)anthracene-induced Mammary Tumors following Oophorectomy. Russell Hilf, James W. Battaglini, James A. Delmez, Nadine Cohen, and William D. Rector.
- 1201 Acute Synergistic Toxicity and Hepatic Necrosis following Oral Administration of Sodium Nitrite and Secondary Amines to Mice.

  Shogo Asahina, Marvin A. Friedman, Elsie Arnold, Gail N. Millar, Myra Mishkin, Yvonne Bishop, and Samuel S. Epstein.
- 1206 Toxicity of Aromatic Hydrocarbons on Normal Human Epidermal Cells in Vitro.

  Michael H. Dietz and B. Allen Flaxman.
- 1210 Intranuclear Paracrystalline Fibrillar Arrays in Human Glioma Cells.

  Eiichi Tani, Toshio Ametani, Yutaka Ishijima, Noboru Higashi, and Eiichi Fujihara.
- 1218 The Effects of Bleomycin on Survival and Cell Progression in Chinese Hamster Cells in Vitro. S. C. Barranco and R. M. Humphrey.
- 1224 Fetal Pattern of Aldolase in Transplantable Hepatomas.

  Fanny Schapira, Antoinette Hatzfeld, and Melvin D. Reuber.
- 1231 Translocation of DNA from the Vascular into the Nuclear Compartment of Solid Mammary Tumors.

  Claude Watters and Pietro M. Gullino.
- 1244 Tissue Isoantigens A, B, and H in Carcinoma of the Pancreas.
  Israel Davidsohn, Louisa Y. Ni, and Rudolf Stejskal.
- 1251 Biochemical Studies of Diethylstilbestrolinduced Kidney Tumors in the Golden Syrian Hamster.

  Teresa Lacomba and Maria Gabaldón.

- 1257 Studies on a Model Immunological System. J. H. Cronenberger and A. P. Kimball.
- 1261 Electron Microscopic Study of Spontaneous Mammary Carcinomas in Cats and Dogs: Virus-like Particles in Cat Mammary Carcinomas.

  Dorothy G. Feldman and Ludwik Gross.
- 1268 A Comparison of in Vivo and in Vitro Uptake of Estradiol by Human Breast Tumors and the Relationship to Steroid Excretion. Frances James, V. H. T. James, A. E. Carter, and W. T. Irvine.
- 1273 Carbohydrate Metabolism in Subjects with Cancer.

  Christine Waterhouse and Johannes H. Kemperman.
- 1279 The Cell Proliferation Kinetics of Four Experimental Tumors after Acute X-irradiation.

  Juliana Denekamp and R. H. Thomlinson.
- 1285 Serological Studies of Tumor Antigens in Chemical- and Virus-induced Thymic Lymphomas.

  Ruth G. Doell and Bonnie J. Mathieson.
- 1290 Hyperbasophilic Foci as Sites of Neoplastic Transformation in Hepatic Parenchyma.

  R. Daoust and R. Calamai.
- 1297 Studies on DNA Repair in Human Lymphocytes Treated with Proximate Carcinogens and Alkylating Agents.

  Michael W. Lieberman, Richard N. Baney, Robert E. Lee, Stewart Sell, and Emmanuel Farber.
- 1307 Deoxyribonucleoside Incorporation and the Role of Hydroxyurea in a Model Lymphocyte System for Studying DNA Repair in Carcinogenesis.

  Michael W. Lieberman, Stewart Sell, and Emmanuel Farber.
- 1313 Brief Communication:

  Adenosine 3',5'-Cyclic Monophosphate and Contact Inhibition.

  Margaret L. Heidrick and Wayne L.

  Ryan.
- 1316 Obituary: George Otto Gey.

  John H. Hanks and Frederick B. Bang.
- 1317 Special Announcement: Annual Meeting of the American Association for Cancer Research, Inc.
- 1317 Announcement from the Editor.
- 1318 Announcements.
- 1318 Erratum.

- 1319 E Pluribus Unum: Presidential Address.

  James F. Holland
- 1330 Proliferative Kinetics of Human Hematopoietic Cells during Different Growth Phases in Vitro. Akio Todo, Annabel Strife, Jerrold Fried, and Bayard D. Clarkson.
- 1341 Kinetic, Immunochemical, and Physical Studies on Purified Rat Liver Adenosine 5'-Phosphate Deaminase after Induction with 3'-Methyl-4-dimethylaminoazobenzene or Thioacetamide. Larry D. Smith and Donald E. Kizer.
- 1348 Hormonal Effects on Thymidine Kinase Activity in Normal Rat Adrenal and in Hormone-dependent Adrenal Carcinoma.
- M. R. Garland, Therese Ng, and J. F. Richards.
   1355 Erythropoietic Effect of Plasma from Patients with Advanced Cancer.
   Dincer Firat and Jose Banzon.
- 1360 Metabolic Studies on Mammary Tumor MTW9 following Resection of the Mammosomatotropic Tumor MtTW5.

  Shibabrata Biswas and Vincent P. Hollander.
- 1364 Identity of Corticosteroid Binder I with the Macromolecule Binding 3-Methylcholanthrene in Liver Cytosol in Vivo.

  S. Singer and Gerald Litwack.
- 1369 The Anionic Nature of Sarcoma 180 Cell Surfaces, and Sensitivity to 4,4'-Diacetyldiphenyl-urea-bis(guanylhydrazone).
  L. Weiss and M. T. Hakala.
- 1373 Pulmonary Fibroblastomas in a Deer with Cutaneous Fibromatosis.

  Loren D. Koller and Carl Olson.
- 1376 Enzymatic Phosphorylation of 1-β-D-Arabinofuranosylcytosine. Yoshio Kozai and Yukio Sugino.
- 1383 Treatment of Moloney Virus-induced Leukemia with Cyclophosphamide and Specifically Sensitized Allogeneic Cells.

  John P. Glynn and Meir Kende.
- 1389 DNA Synthesis and the Effect of Sucrose in Nuclei of Host Liver and Morris Hepatomas. P. Ove, M. L. Coetzee, and H. P. Morris.
- 1396 Regulation of the Rate of Sterol Synthesis and the Level of β-Hydroxy-β-methylglutaryl Coenzyme A Reductase Activity in Mouse Liver and Hepatomas.

  A. A. Kandutsch and R. L. Hancock.
- 1402 Ultrastructural Changes in Friend Erythroleukemia Cells Treated with Dimethyl Sulfoxide. Toru Sato, Charlotte Friend, and Etienne de Harven.
- 1418 A Comparative Study of Some of the Enzymes Involved in Glucose Metabolism of Human Diploid and SV40-transformed Human Diploid Cells.

  George A. Dunaway, Jr., and Eddie C. Smith.

- 1422 The Effects of Phleomycin on Mouse L-Cells. S. J. Shuve and A. M. Rauth.
- 1429 Effects of Priming Dose Schedules in Methotrexate Treatment of Mouse Leukemia L1210.

  Marc J. Straus, Nathan Mantel, and Abraham Goldin.
- 1434 Effects of Phorbol and Four Diesters of Phorbol on the Incorporation of Tritiated Precursors into DNA, RNA, and Protein in Mouse Epidermis. William M. Baird, Jane A. Sedgwick, and R. K. Boutwell.
- 1440 Comparison of Macromolecular Binding of Estradiol in Hormone-dependent and Hormoneindependent Rat Mammary Carcinoma. William L. McGuire and Jo Anne Julian.
- 1446 Depression of Homograft Rejection and Graftversus-Host Reactivity following 7,12-Dimethylbenz(a)anthracene Exposure in the Rat. A. Tano Di Marco, Claudio Franceschi, Luigi Xerri, and Giorgio Prodi.
- 1451 A Study of Leukemic Cell Injury by Physical Agents.

  Moriji Miura, Kohei Kawashima, Hiroshi Nishiwaki, Masaki Kobayashi, Akimitsu Morita, Ryuzo Ohno, Hisami Kakizawa, Tadaaki Uetani, Masami Hirano, and Kazumasa Yamada.
- 1457 Effect of Dopamine and 6-Hydroxydopamine on Mouse Neuroblastoma Cells in Vitro. Kedar N. Prasad.
- 1461 Carcinogenicity Testing of N-Hydroxy and Other Oxidation and Decomposition Products of 1- and 2-Naphthylamine.
  J. L. Radomski, E. Brill, W. B. Deichmann, and E. M. Glass.
- 1468 Influence of 3-Methylcholanthrene and Diet on the Binding of 2-Acetylaminofluorene and Its N-Hydroxy Metabolite to Rat Liver Nucleic Acids. Charles C. Irving, Thelma C. Peeler, Richard A. Veazey, and Ralph Wiseman, Jr.
- 1473 Strain Specificity in Mouse Mammary Tumor Virus Virion Antigens.

  Phyllis B. Blair.
- 1478 Irreversible Change of the Pattern of Carcinogenic Aminoazo Dye-binding Proteins in Rat Liver during Continuous Feeding of 3'-Methyl-4-dimethylaminoazobenzene.
  Tsutomu Sugimoto and Hiroshi Terayama.
- 1483 Histology and Ultrastructure of Cultured Human Tumor Cells Exposed to Antisera to the Nerve Growth Factor.

  H. Pinkerton, B. Bhagat, M. W. Rana, and S. Holtwick.
- 1488 Immunization with Chemically Modified Lymphoma Cells.
  Morton D. Prager, Ina Derr, Alan Swann, and Joseph Cotropia.

- 1492 Isolation, Identification, and Biological Study of Compounds Derived from 3-Methylcholanthrene by Irradiation in Dimethyl Sulfoxide.

  Thomas L. Dao, Charles King, and Takeshi Tominaga.
- 1496 Morphogenesis of Epithelial Neoplasms Induced in the Rat Kidney by Dimethylnitrosamine.
  G. C. Hard and W. H. Butler.
- 1506 Reduction and Enhancement by Phenobarbital of Hepatocarcinogenesis Induced in the Rat by 2-Acetylaminofluorene.

  Carl Peraino, R. J. Michael Fry, and Everett Staffeldt.

- Correspondence.
- 1513 I. Brodsky.
- 1514 Christopher A. Reilly, Jr., and Gerd T. Schloss.
- 1515 American Association for Cancer Research: Honorary Certificates of Award for 1971.
- 1519 Books Received.
- 1520 Special Announcement: Annual Meeting of the American Association for Cancer Research, Inc.
- 1521 Announcements.

#### November, Number 11

- 1523 A Review of Isozymes in Cancer.

  Wayne E. Criss.
- 1543 The Effect of Age at Exposure to a Sublethal Dose of Fast Neutrons on Tumorigenesis in the Male Rat. T. J. Castanera, D. C. Jones, D. J. Kimeldorf, and V. J. Rosen.
- 1550 Inhibition of Chemically Induced Neoplasia by Immunization with an Antigenic Carcinogen-Protein Conjugate.

  Richard M. Peck and Evelyn B. Peck.
- 1555 Urinary Polyamines in Cancer Patients.

  Diane H. Russell, Carl C. Levy, Stephan C.

  Schimpff, and Inez A. Hawk.
- 1559 Stimulation or Suppression of Metastases with Graded Doses of Tumor Cells. Romain R. Vanwijck, Elizabeth A. Godrick, Howard G. Smith, Jonathan Goldweitz, and Richard E. Wilson.
- 1564 Cartesian Diver Studies on Respiration and Glycolysis of High and Low Sarcoma Lines.

  J. D. Lutton and M. J. Kopac.
- 1570 Genotype-dependent Modification of Sarcoma 37 Growth in Castrated Mice. George L. Wolff.
- 1573 Cross-linking of DNA by Alkylating Agents and Effects on DNA Function in the Chick Embryo. Jerome J. McCann, Timothy M. Lo, and D. A. Webster.
- 1580 Induction of Tyrosine Aminotransferase and Amino Acid Transport in Morris Hepatomas and in Adult and Neonatal Rat Liver.

  Robert D. Reynolds, David F. Scott, Van R. Potter, and Harold P. Morris.
- 1590 Comparison of Local Cellular Reaction to Tumor Grafts in Mice Treated with Some Plant Polysaccharides. Reiko Tokuzen.
- 1594 Normal and Cancerous Tissue Transplantation in Allogeneic and Syngeneic Xenopus laevis.

  Irandokht Hadji-Azimi and Michail Fischberg.

- 1600 The Uptake of Tritiated Methotrexate by an Experimental Glioma. Charles H. Tator.
- 1606 Leukemia L1210 Therapy Trials with Antileukemia Serum and Bacillus Calmette-Guérin. Arnold E. Reif and Chung-Ai Kim.
- 1613 Differing Responses to Radiation of Murine Bone Marrow Stem Cells in Relation to the Cell Cycle.
  John T. Chaffey and Samuel Hellman.
- 1616 Sensitivity to Nitrogen Mustard as a Function of Transport Activity and Proliferative Rate in L5178Y Lymphoblasts.

  Gerald J. Goldenberg, Roger M. Lyons, Judy A. Lepp, and Candice L. Vanstone.
- 1620 The Role of Phosphohydrolases in the Mechanism of Resistance of Neoplastic Cells to 6-Thiopurines.
  M. K. Wolpert, S. P. Damle, J. E. Brown, E. Sznycer, K. C. Agrawal, and A. C. Sartorelli.
- 1627 Pharmacology of 6-Thioguanine in Man. G. A. LePage and J. P. Whitecar, Jr.
- 1632 Lysosomal and Nonlysosomal Enzyme Activities of Morris Hepatomas. Raymond J. Shamberger, Motoo Hozumi, and Harold P. Morris.
- 1640 Amino Acid Requirements in Vitro of Human Leukemic Cells. Takao Ohnuma, Judith Waligunda, and James F. Holland.
- 1645 Studies on the Carcinogenicity of the Glucuronides of N-Hydroxy-2-acetylaminofluorene and N-2-Fluorenylhydroxylamine in the Rat. Charles C. Irving and Ralph Wiseman, Jr.
- 1649 Cytotoxicity of Sesquiterpene Lactones.

  Kuo-Hsiung Lee, Eng-Shang Huang, Claude
  Piantadosi, Joseph S. Pagano, and T. A.

  Geissman.
- 1655 Concomitant Immunity and Specific Depression of Immunity by Residual or Reinjected Syngeneic Tumor Tissue.

  Jan Vaage.

XUM

- 1663 Transcription of Walker 256 Carcinosarcoma Chromatin.
  - Nina C. Krostaba and T. Y. Wang.
- 1669 The Effects of DL-p-Fluorophenylalanine and L-3-Nitrotyrosine on the Growth and Biochemisty of the Taper Liver Tumor. S. J. MacLean and R. E. Huber.
- 1673 Serum and Urinary Protein Alterations in C57BL/10 Lymphoma-bearing Mice. Bob G. Sanders, Ray L. Teplitz, and Kay L. Wiley.
- 1682 Antigenic Cross-reactivity between Primary Spontaneous Mouse Mammary Tumors and Their Transplantable Ascites Tumors.

  Reiko Furuse Irie.
- 1690 Transitional Cell Hyperplasia in the Bladders of Dogs Fed DL-Tryptophan.
  J. Radomski, E. M. Glass, and William B. Deichmann.
- 1695 A Comparative Biochemical Study of Alkaline Phosphatases in Normal and Leukemic Mice. H. Neumann, K. J. Wilson, R. Hauck-Granoth, and N. Haran-Ghera.
- 1702 Chronological Appearance of Alkaline Phosphatase Activity in Virus-induced Thymic Lymphomas of C57BL/6 Mice.
  K. J. Wilson, H. Neumann, and N. Haran-Ghera.
- 1707 Symposium: Staging in Hodgkin's Disease.
- 1708 Program.
- 1710 List of Participants.
- 1711 Program Committee.
- 1712 Introduction. Jack W. Milder.
- 1713 The Need for a New Clinical Classification in Hodgkin's Disease: Keynote Address. M. Vera Peters.
- 1723 A Reappraisal of Clinical and Biological Signs in Staging of Hodgkin's Disease.

  F. Teillet, M. Boiron, and J. Bernard.
- 1730 Formal Discussion of F. Teillet et al.'s Paper, "A Reappraisal of Clinical and Biological Signs in Staging of Hodgkin's Disease." Henry S. Kaplan.
- 1731 Current Status of Lymphography.

  Manuel Viamonte, Jr.
- 1733 Hodgkin's Disease of the Bone Marrow. Saul A. Rosenberg.
- 1737 A Critique of the Value of Laparotomy and Splenectomy in the Evaluation of Patients with Hodgkin's Disease.

  Saul A. Rosenberg.
- 1741 The Possible Value of Mediastinoscopy in Staging Hodgkin's Disease.
  Marshall E. Redding, Constantine E. Anagnostopoulos, and John E. Ultmann.
- 1746 Peritoneoscopy in the Staging of Hodgkin's Disease.

  V. T. DeVita, Jr., C. M. Bagley, Jr., B. Goodell, D. A. O'Kieffe, and N. P. Trujillo.

- 1751 Summary of Informal Discussion on Staging Procedures in Hodgkin's Disease.

  Maurice Tubiana.
- 1755 Criteria for Involvement of Lymph Node, Bone Marrow, Spleen, and Liver in Hodgkin's Disease. Robert J. Lukes.
- 1768 Formal Discussion of Robert J. Lukes' Paper, "Criteria for Involvement of Lymph Node, Bone Marrow, Spleen, and Liver in Hodgkin's Disease."

  Ronald F. Dorfman.
- 1770 Relationship of Histological Findings to Survival in Hodgkin's Disease.

  James J. Butler.
- 1776 The Relationship of Histopathological Subtype to Clinical Stage of Hodgkin's Disease at Diagnosis. Costan W. Berard, Louis B. Thomas, Lillian M. Axtell, Mary Kruse, Guy Newell, and Robert Kagan.
- 1786 Relationship of Histology to Site in Hodgkin's Disease.

  Ronald F. Dorfman.
- 1794 Clinical and Biological Significance of Vascular Invasion in Hodgkin's Disease.

  Henry Rappaport, Stephen B. Strum, George Hutchison, and Lawrence W. Allen.
- 1799 Summary of Informal Discussion on Histological Criteria for Diagnosis of the Extent of Hodgkin's Disease.

  Louis B. Thomas.
- 1801 Prognostic Factors in 454 Cases of Hodgkin's Disease.
  M. Tubiana, E. Attié, R. Flamant, R. Gérard-Marchant, and M. Hayat.
- 1811 Contiguity and Progression in Hodgkin's Disease. Henry S. Kaplan.
- 1814 Prognostic and Therapeutic Implications of Staging in Extranodal Hodgkin's Disease.
  Karl Musshoff.
- 1828 Definition of Cure for Hodgkin's Disease.

  Emil Frei, III, and Edmund A. Gehan.
- 1834 Results of Radiation Therapy and Implications for the Clinical Staging of Hodgkin's Disease.

  Ralph E. Johnson, Marilyn K. Glover, and Sandra K. Marshall.
- 1838 Chemotherapeutic Implications of Staging in Hodgkin's Disease.

  Vincent T. DeVita, Jr., and Paul P. Carbone.
- 1845 Combined Radiotherapy and Chemotherapy of Lymphomas and Other Cancers.

  Leon Stutzman.
- 1851 Summary of Informal Discussion on the Prognostic and Therapeutic Implications of Staging in Hodgkin's Disease.
  M. Vera Peters.
- 1854 Epidemiological Considerations of Staging in Hodgkin's Disease.

  Brian MacMahon.

- 1858 Formal Discussion of Brian MacMahon's Paper, "Epidemiological Considerations of Staging in Hodgkin's Disease."

  George Hutchison.
- 1860 Report of the Committee on Hodgkin's Disease Staging Classification.

  Paul P. Carbone (Chairman), Henry S. Kaplan, Karl Musshoff, David W. Smithers, and Maurice Tubiana.
- 1862 Report of the Committee on Hodgkin's Disease Staging Procedures.

  Saul A. Rosenberg (Chairman), Michael Boiron, Vincent T. De Vita, Jr., Ralph E. Johnson, Burton J. Lee, John E. Ultmann, and Manuel Viamonte, Jr.
- 1864 Report of the Committee on Histopathological Criteria Contributing to Staging of Hodgkin's Disease.

  Henry Rappaport (Chairman), Costan W.
  Berard, James J. Butler, Ronald F. Dorfman, Robert J. Lukes, and Louis B. Thomas.
- 1866 Summary of Informal Discussion on Biostatistical and Epidemiological Factors in Hodgkin's Disease.

  David W. Smithers.
- 1869 Summary of Papers Delivered at the Conference on Staging in Hodgkin's Disease (Ann Arbor). David W. Smithers.
- 1871 Announcements.

#### December, Number 12

- 1875 Glyoxalase Activity in Sham- and Partially Hepatectomized Rats.

  Nicholas M. Alexander and James L. Boyer.
- 1879 The Regulation of β-Hydroxy-β-methylglutaryl Coenzyme A Reductase in Morris Hepatomas 5123C, 7800, and 9618A.

  Stanley Goldfarb and Henry C. Pitot.
- 1883 Some Determinants of Camptothecin Responsiveness in Leukemia L1210 Cells. David Kessel.
- 1888 Comparative Oligonucleotide Sequences of 28 S Ribosomal RNA of Normal Liver and Novikoff Hepatoma Ascites Cells. Siegfried Seeber and Harris Busch.
- 1895 Binding of Estradiol-17β to Human Cancer Tissue of the Female Genital Tract. Lars Terenius, Arne Lindell, and Bengt H. Persson.
- 1899 Quantitation of Human α-Fetoprotein by Electroimmunodiffusion. Philippe P. Sizaret, K. Robert McIntire, and Gerald L. Princler.
- 1903 Effect of Pregnancy, Lactation, and Pituitary Isografts on the Genesis of Spontaneous Mammary Gland Tumors in the Mouse. J. E. Bruni and D. G. Montemurro.
- 1908 Species Differences in the Physiological Disposition of 3-Tritylthio-L-alanine (NSC 83265).

  John J. Coffey, Paul E. Palm, E. Paul Denine,
  Paul E. Baranowsky, and Charles J. Kensler.
- 1915 Difference in Effects of Proflavine and Actinomycin D on Mammalian Cell Nucleoli. Louis Recher, Nikko T. Parry, Letty G. Briggs, and Jack Whitescarver.
- 1923 Biological and Biochemical Differences between Tubercidin (7-Deazaadenosine) and Its 5'-Phosphate Methyl Ester. Bijoy K. Bhuyan, Gary L. Neil, Charles G. Smith, Elma J. Olin, and L. H. Li.

- 1930 Absence of an Effect of Amethopterin and 5-Fluorodeoxyuridine upon Levels of Thymidine Triphosphate in HeLa Cells. Creston N. Baumunk and Daniel L. Friedman.
- 1936 Structure-Activity Relationships in Toxicity and Carcinogenicity of Aflatoxins and Analogs. G. N. Wogan, G. S. Edwards, and P. M. Newberne.
- 1943 Structure-Activity Relationships in DNA Binding and Nuclear Effects of Aflatoxin and Analogs.
  G. S. Edwards, G. N. Wogan, M. B. Sporn, and R. S. Pong.
- 1951 Carcinogenicity of Derivatives of 7,12-Dimethylbenz(a)anthracene.
  James W. Flesher and Katherine L. Sydnor.
- 1955 Effect of Mammary Tumor Virus Infection on in Vivo Oxidation of Glucose-1-14C and Glucose-6-14C in C3H Mice.

  Hans R. Burki and George T. Okita.
- 1962 Effect of Albumin Fraction from Blood of Tumor-bearing Rats on Serum Protein Production by Isolated Perfused Normal Rat Livers. Milton Toporek.
- 1968 Immunofluorescent Studies of Lymph Nodes and Spleens of Leukotic Cattle for Cells Producing IgM and IgG. Z. Trainin and U. Klopfer.
- 1971 Interference of Daunomycin and Adriamycin on the Growth and Regression of Murine Sarcoma Virus (Moloney) Tumors in Mice.
  A. M. Casazza, A. Di Marco, and G. Di Cuonzo.
- 1977 Acute Ultrastructural Effects of Benzo[a]pyrene and Ferric Oxide on the Hamster Tracheobronchial Epithelium.

  Curtis C. Harris, Michael B. Sporn, David G.
  Kaufman, Joseph M. Smith, Mary S. Baker,
  and Umberto Saffiotti.

- 1990 Alterations in Morphology and Growth Pattern in a Transplantable Leukemia of Rats. Zofia Z. Zawidzka and Harold C. Grice.
- 1999 Differences in the Immunogenicity of Leukemia L1210 Sublines in DBA/2 Mice. E. Mihich and M. Kitano.
- 2004 Cytogenetic Effects of Bleomycin Therapy in Man.
  Richard S. Bornstein, David A. Hungerford, Gail Haller, Paul F. Engstrom, and John W. Yarbro.
- 2008 Spontaneous Regression of Chemically Induced Malignant Lymphoma in Swiss Mice. J. M. Rice and J. K. Davidson.
- 2018 The Reversible Inhibition of Catalase Activity by Nucleotides and Its Possible Relationship to Mouse Liver Catalase Depression Induced by Biological Substances.
  Y. Hokama and E. Yanagihara.
- 2026 Effect of Endocrine Organ Ablation on the Uptake and Clearance of 9,10-Dimethyl-1,2-benzanthracene-9-14C by Mammary Parenchymal Cells of the Rat.

  D. H. Janss and R. C. Moon.
- 2032 Effect of Rifampicin and a Derivative on Cells Transformed by Rous Sarcoma Virus.

  Antti Vaheri and Hidesaburo Hanafusa.
- 2037 The Cytotoxicity of Methotrexate in Mouse Small Intestine in Relation to Inhibition of Folic Acid Reductase and, of DNA Synthesis.

  Stephen Margolis, Frederick S. Philips, and Stephen S. Sternberg.
- 2047 Malignant Lymphomas Arising in Peyer's Patches and Other Organs of Untreated NZO/ Bl Mice.
  H. Rappaport, M. Bielschowsky, E. F. D'Ath, and C. M. Goodall.
- 2054 DNA Biosynthesis by Isolated Mitochondria Stimulation by Cytoplasmic Factors from Neoplastic and Regenerating Tissues.

  George F. Kalf, Marie A. D'Agostino, and George R. Hunter.
- 2059 The Ultrastructure of Target L-Cells and Immune Macrophages during Their Interaction in Vivo.

  Velma C. Chambers and Russell S. Weiser.
- 2067 Rapid Induction of Sarcomas in Rats by Combination of Nickel Sulfide and 3,4-Benzpyrene.

  Ronald M. Maenza, Arun M. Pradhan, and
  F. William Sunderman, Jr.
- 2072 Isolation of Tumor Cell Surface Binding Sites for Concanavalin A and Wheat Germ Agglutinin.

  Virginia P. Wray and Earl F. Walborg, Jr.
- 2080 A Reinvestigation of Epidermal Transplantation during Chemical Carcinogenesis.

  David Steinmuller.

- 2085 Studies on Mouse Mammary Tumor Virus (MTV) and Mouse Leukemia Virus (MuLV) by Immunoelectron Microscopy.

  Takeshi Shigematsu, Leon Dmochowski, and W. Clydell Williams.
- 2098 Statistical Estimation of Prognosis for Children with Neuroblastoma.

  Norman Breslow and Barbara McCann.
- 2104 A Search for Gene Derepression in RNA of Primary Rat Hepatomas.

  R. W. Shearer and E. A. Smuckler.
- 2110 Alteration in the Distribution of Basic Soluble Rat Liver Proteins during Azo Dye Carcinogenesis.
  C. J. Louis and J. M. Blunck.
- 2116 Differential Effects of Melphalan on Mouse Myeloma (Adj. PC-5) and Hemopoietic Stem Cells. Makio Ogawa, Daniel E. Bergsagel, and E. A. McCulloch.
- 2120 Elongated Nuclear Sheet and Intranuclear Myelin Figure of Human Medulloblastoma.
  Eiichi Tani, Juji Takeuchi, Yutaka Ishijima, Noboru Higashi, Eiichi Fujihara, Toshio Ametani, and Kvozo Ando.
- 2130 Increase of Leukemia L1210 Immunogenicity by Vibrio cholerae Neuraminidase Treatment.

  J. George Bekesi, G. St-Arneault, and J. F. Holland.
- 2133 The Effect of Age, Fractionation, and Dose on Radiation Carcinogenesis in Various Tissues of Mice.
  S. D. Vesselinovitch, E. L. Simmons, N. Mihail-
- ovich, K. V. N. Rao, and L. S. Lombard.

  2143 Perinatal Carcinogenesis by Urethan.
  S. D. Vesslinovitch, N. Mihailovich, K. V. N. Rao, and L. Itze.
- 2148 Activity and Ultrastructure of Mitochondria from Mouse Mammary Gland and Mammary Adenocarcinoma.

  Charles W. Mehard, Lester Packer, and S. Abraham.
- 2161 Metabolism of Polycyclic Aromatic Hydrocarbons in Cell Cultures.

  Eliezer Huberman, James K. Selkirk, and Charles Heidelberger.
- 2168 The Binding of Polycyclic Aromatic Hydrocarbons to the DNA, RNA, and Proteins of Transformable Cells in Culture.

  Toshio Kuroki and Charles Heidelberger.
- 2177 Metabolism of Hepatomas of Different Growth Rates in Situ and during Ischemia.

  George Weber, Marion Stubbs, and Harold P. Morris.
- 2184 Breakage of Bacterial DNA by Nitrofuran Derivatives.

  D. R. McCalla, Antoon Reuvers, and Christel Kaiser.

- 2189 Ribosome Monomers in Rat Liver following Administration of Dimethylnitrosamine.

  L. N. Vernie, W. S. Bont, and P. Emmelot.
- 2196 Announcements.

- 2198 Acknowledgment to Reviewers.
- 2200 Index to Volume 31.
- iii Contents of Volume 31, 1971.
- xvii Cover Illustrations for 1971.

### Cover Illustrations for 1971

- January: Ludwik Gross, a schematic illustration of "vertical" transmission of mouse leukemia virus, and an electron micrograph of the mouse leukemia virus (Gross) budding from a cell membrane in the bone marrow of a leukemic rat.
- February: Theodor Boveri and an illustration of a schematized mitosis in sea urchin embryos.
- March: Sarah E. Stewart, Bernice E. Eddy, and illustrations of polyoma virus-induced tumors shown in histological section.
- April: Hugh J. Creech, the polycyclic aromatic hydrocarbons 1,2-benzanthryl and 2-acetylaminofluorenyl, and the new official insignia of the American Association for Cancer Research. Inc.
- May: Jules Bordet and the Institut Jules Bordet, Centre des Tumeurs de l'Université Libre de Bruxelles.
- June: Claudius Regaud and Henri Coutard.

- July: Joseph Claude Anselme Récamier and Sir James Paget.
- August: Howard E. Skipper, the cancer laboratories of Southern Research Institute, the original 1890 mansion which housed the first laboratories of the Institute, and its official emblem.
- September: George Henry Alexander Clowes.
- October: Gert L. Laqueur, Hiromu Matsumoto, and a mature cycad plant.
- November: Otto Mühlbock, the Netherlands Cancer Institute (Antoni van Leeuwenhoek Huis), and a sketch of the new facilities to be completed in 1977.
- December: Bernardino Ramazzini with the title page of an early edition of his treatise on diseases of workers and two pages reproduced from Domenico Rigoni-Stern's article on the epidemiology of breast and uterine cancer.

4

# AUTHOR INDEX

## December 1971

Abraham,	S.,	2148				
Alexander	, N.	. M.,	1875			
Ametani,	т.,	2120				
Ando, K., 2120						

Baker, M. S., 1977 Baronowsky, P. E., 1908 Baumunk, C. N., 1930 Bekesi, J. G., 2130 Bergsagel, D. E., 2116 Bhuyan, B. K., 1923 Bielschowsky, M., 2047 Blunck, J. M., 2110 Bont, W. S., 2189 Bornstein, R. S., 2004 Boyer, J. L., 1875 Breslow, N., 2098 Briggs, L. G., 1915 Bruni, J. E., 1903 Burki, H. R., 1955 Busch, H., 1888

Casazza, A. M., 1971 Chambers, V. C., 2059 Coffey, J. J., 1908

D'Agostino, M. A., 2054 D'Ath, E. F., 2047 Davidson, J. K., 2008 Denine, E. P., 1908 Di Cuonzo, G., 1971 Di Marco, A., 1971 Dmochowski, L., 2085

Edwards, G. S., 1936, 1943 Emmelot, P., 2189 Engstrom, P. F., 2004

Goldfarb, S., 1879 Goodall, C. M., 2047 Grice, H. C., 1990

Flesher, J. W., 1951 Friedman, D. L., 1930 Fujihara, E., 2120

Haller, G., 2004 Hanafusa, H., 2032 Harris, C. C., 1977 Heidelberger, C., 2161, 2168 Higashi, N., 2120 Hokama, Y., 2018 Holland, J. F., 2130 Huberman, E., 2161 Hungerford, D. A., 2004 Hunter, G. R., 2054

Janss, D. H., 2026

Kaiser, C., 2184
Kalf, G. F., 2054
Kaufman, D. G., 1977
Kensler, C. J., 1908
Kessel, D., 1883
Kitano, M., 1999
Klopfer, U., 1968
Kuroki, T., 2168

Li, L. H., 1923 Lindell, A., 1895 Lombard, L. S., 2133 Louis, C. J., 2110

Maenza, R. M., 2067
Margolis, S., 2037
McCalla, D. R., 2184
McCann, B., 2098
McCulloch, E. A., 2116
McIntire, K. R., 1899
Mehard, C. W., 2148
Mihailovich, N., 2133, 2143
Mihich, E., 1999
Montemurro, D. G., 1903
Moon, R. C., 2026

Neil, G. L., 1923 Newberne, P. M., 1936

Morris, H. P., 2177

Ogawa, M., 2116 Okita, G. T., 1955 Olin, E. J., 1923

Ishijima, Y., 2120 Itze, L., 2143

Packer, L., 2148
Palm, P. E., 1908
Parry, N. T., 1915
Persson, B. H., 1895
Philips, F. S., 2037
Pitot, H. C., 1879

Pong, R. S., 1943 Pradhan, A. M., 2067 Princler, G. L., 1899

Rao, K. V. N., 2133, 2143 Rappaport, H., 2047 Recher, L., 1915 Reuvers, A., 2184 Rice, J. M., 2008

Saffiotti, U., 1977 Seeber, S., 1888 Selkirk, J. K., 2161 Shearer, R. W., 2104 Shigematsu, T., 2085 Simmons, E. L., 2133 Sizaret, P. P., 1899 Smith, C. G., 1923 Smith, J. M., 1977 Smuckler, E. A., 2104 Sporn, M. B., 1943, 1977 St-Arneault, G., 2130 Steinmuller, D., 2080 Sternberg, S. S., 2037 Stubbs, M., 2177 Sunderman, F. W., Jr., 2067 Sydnor, K. L., 1951

Takeuchi, J., 2120
Tani, E., 2120
Terenius, L., 1895
Toporek, M., 1962
Trainin, Z., 1968
Vaheri, A., 2032
Vernie, L. N., 2189
Vesselinovitch, S. D., 2133, 2143

Walborg, E. F., Jr., 2072 Weber, G., 2177 Weiser, R. S., 2059 Whitescarver, J., 1915 Williams, W. C., 2085 Wogan, G. N., 1936, 1943 Wray, V. P., 2072

Yanagihara, E., 2018 Yarbro, J. W., 2004

Zawidzka, Z. Z., 1990

## NOTICE TO AUTHORS

Before preparing manuscripts for submission to CANCER RESEARCH, authors are urged by the Editor to consult the detailed INSTRUCTIONS TO AUTHORS which are given in the January 1971 issue of the Journal. Copies of these instructions are available from the Editorial Office upon request.